Virginia Medical Monthly

Vol. 81, No. 11
WHOLE No. 1229

RICHMOND, VA., NOVEMBER, 1954

$2.00 A YEAR
25 CENTS A COPY

THE RELATION OF NEUROSURGERY TO GENERAL PRACTICE

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One of the principal functions of the specialist in a singular field is to give the general practitioner all possible help in the treatment of his patients. The family doctor, whether he is a general practitioner or a medical internist, is the important link between any specialist and the patient. This link should be preserved and strengthened for the mutual benefit of all concerned. And those of us in a specialty need the help of the general practitioner in many ways:

First of all, the great majority of our patients come from him; the family doctor can give valuable information regarding the patient's illness, which he has followed for some time; having already established the patient's confidence, the family doctor can encourage, and at times insist on, consultation with a recommended specialist; he knows the home situation and members of the patient's family, e.g., a patient alone in the world develops a brain tumor at the age of 70 years. He should not be subjected to heroic measures to preserve his life as an invalid; he is able to carry out recommended treatment following consultation or operation. And, finally, it is the family doctor's responsibility to know which type of specialist can provide the most benefit for his patient. This concept is a new one, since many of the specialties overlap and several may be able to treat the same disorder. However, one specialist may treat the condition better than the other and the selective ability of the general practitioner is of the utmost importance.

Neurosurgery can be most helpful in the management of conditions which affect the brain, spinal cord, peripheral nerves, and the sympathetic nervous system. Manifestations of these conditions may be roughly tabulated as follows:

1. Injuries to the brain, spinal cord, and peripheral nervous system. (These constitute a large segment of the specialty.)
2. Intractable pain, including the neuralgias, tic doloureux, cervical rib, and ruptured disc.
3. Tumors of the brain.
4. Tumors of the spinal cord.
5. Degenerative diseases of the central nervous system.
6. Cerebral vascular diseases.
7. Sympathetic nervous system disorders.
8. Congenital defects of the nervous system.
9. Miscellaneous conditions, such as Meniere's disease, torticollis, otitic hydrocephalus, etc.

In a meeting of this type it is obviously impossible to do more than touch the surface of methods of detection and treatment of these conditions. However, some helpful points can be made in brief form.

HEAD INJURIES can be divided into two types. Those considered as the *closed type* and the *open type*. The "closed" type may be classified in three groups: (1) concussion, (2) contusion, and (3) laceration and hemorrhages. The "open" type includes: (1) compound and depressed skull fractures, (2) penetrating wounds, (3) subdural hematoma, (4) epidural hematoma, and (5) certain rare conditions such as rhinorrhea, porencephaly, etc.

The period of unconsciousness is of practical concern as an index for gauging the severity of head injuries. A person who is unconscious for one to two minutes should have a period of rest of at least that day. Those unconscious for one to two hours should lead a quiet existence for about a week. It has been found experimentally that all repair to brain injury is complete within three weeks; therfore, it is not necessary to continue treatment of internal head injury beyond that time. It may be necessary to treat other manifestations of head

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injuries for longer periods such as the care of cranial defects resulting from loss of bone in severe fractures. This condition can be corrected, however, at the time of original surgery (or anytime thereafter) by molding a sterile plastic dough into the area of missing skull. This is an inlay type of repair which I have developed and which is described in detail in the May 1954 issue of the *Journal of Neurosurgery*. There is no reason why general surgeons should not be acquainted with this method as well as other specialized types of therapy for craniocerebral injuries.

INTRACTABLE PAIN and its control is a great responsibility to all of us as doctors. It is especially important to the general practitioner who is closest to the patient. Although morphine continues to be a most effective drug, the use of any strong narcotic has many undesirable effects. I am sure all of you have seen patients with lingering legitimate pain become addicted from the continued use of pain-relieving drugs. Treatment by neurosurgical means solves many of the serious problems of intractable pain.

The reason the neurosurgical method is not used more frequently for treatment of intractable pain is that few people are aware of the relief which is attainable. However, it is true that a high percentage of cases of pain of facial neuralgia, for instance, can be relieved by decompression of the Gasserian ganglion. Intractable pain anywhere from the neck to the tip of the toes can be relieved by cordotomy. These operations carry a small mortality rate and the favorable results obtained more than justify the procedure. The sensory pathways can be cut in the brain stem if necessary to raise the sensory level to the face. This operation can be done to relieve pain on one or both sides of the body. The hospital period for any of these is about one week. Lobotomy can be carried out for relief of pain in hopeless terminal cases. In this operation all members of the patient's family should be apprised of and indicate their willingness to accept the mental changes which always accompany it.

Another difficult problem which is common in medical practice is that of back and extremity pain. Any pain which originates in the back and radiates into an extremity is, ninety-eight times out of a hundred, due to nerve root pressure. The most common type of nerve root pressure is the protruding intervertebral disc. There are, of course, other types of nerve pinching, such as the presence of a tumor. Regardless of etiology, the syndrome of nerve pain is most efficiently treated by a neurosurgeon. A careful neurological examination must be made and very often the neurosurgeon must perform a pantopaque myelogram. I feel he must do this personally since only he is entirely aware of the neurological picture. He must also be prepared, at time of surgery, to deal with any condition involving the nerves that may make its unexpected appearance. After the nerve or nerve root condition has been treated, the neurosurgeon may need the help of the orthopedic surgeon to manage the structural bone problem which occurs in about 15% of conditions affecting nerve roots. In a recent series of 1000 disc operations, spinal fusion was necessary in 5% of the cases and was carried out in this number. One large insurance company, in a 10 year period, has not been able to return a single case of spinal fusion to his usual laboring occupation free from disability. So it seems better to remove the protruding disc first and consider the fusion later if necessary.

The operation for ruptured disc is accomplished by a partial hemilaminectomy, exposing the nerve and the disc between the lamina. In this way the structure of the back is not weakened. The average hospital stay is 5 days post-operatively and thereafter patients are able to look after themselves. A return to work is usual in an additional 5 to 10 days, depending on the type of occupation. The family doctor can be of help in interceding with the employer to take the patient back at an early date on part time or easy job status. This is extremely important in the overall economic scheme of the disabled patient. Many employers or their insurance carrier attempt to get rid of a patient who has a serious disability. The family physician can do much to protect the patient in this regard.

With the increased incidence of cases of ruptured disc and with more persons subjected to its accompanying problems, attention to the economic well-being of the patient assumes added importance. Homes have been lost and families broken up because of this harassing type of pain which renders the personality psychopathic and the individual miserable. The story is a familiar one. These patients try every type of patent medicine and the services of osteopaths and chiropractors, securing only the

same relief they would get from bed rest. Eventually their funds are exhausted. Oftentimes they will move to other parts of the country seeking relief in change of climate. Within my knowledge one patient with ruptured disc received expensive treatment of cortisone and ACTH for six months because of a mistaken diagnosis of arthritis. Most practitioners, however, are aware of the ruptured disc syndrome and pursue an honest approach, with early referral if their methods do not bring quick results. They can provide a valuable contribution to the health of the community since they see many of the patients suffering from this condition. As stated, they comprise practically all patients with pain in the back which radiates into an extremity.

Justification should be obvious for this surgical method of relieving extremity pain due to ruptured disc. Suffice it to say that in several hundred cases of discs that I have operated, 98% of these patients are back at their original employment without any appreciable disability. I think it is a scientific sin that many intelligent doctors still do not accept an operation with such a high record of success.

BRAIN TUMORS are among the commonest affections of the nervous system. They have become more commonly known since the medical profession in general recognizes their incidence. In spite of this fact many patients still die undiagnosed. This is especially tragic since the operative mortality has been reduced to about 10 or 15 per cent. In 400 cases operated on by Horrax, 224, or 56%, of the tumors could be completely and permanently relieved. "Twenty-seven of these patients, or 12%, died following operation and 10 died some time later, leaving 187 patients in which the tumor was eradicated. One hundred sixty patients, or 71% of the entire 224, are leading useful lives with little loss of function." This should stimulate men in medical practice to keep this condition in mind.

Brain tumors cannot be discussed as a group because they are all different. The general consideration of intracranial pressure, however, is common to most all of them and we must look for more than the old stand-bys of headache, vomiting, and choked discs if we are to make progress in discovering more of these neoplasms. Bucy stresses that the only true symptom of intracranial tumor is the gradually progressive loss of neurological function. We can, therefore, consider brain tumors in the light of both general and local symptoms. Increased intracranial pressure may result from: obstruction to CSF, reduction of intracranial space, obstruction of absorbing mechanism, and obstruction to venous drainage.

The most common symptoms produced by increased intracranial pressure are headache, vomiting, choked discs, and stupor—usually appearing in this order. Focal symptoms will depend on the area of the brain that is being stimulated by a small tumor or paralyzed by more advanced growth. Generalized epileptic convulsions which do not differ in any way from the idiopathic type are common in cases of intracranial tumor. This is the reason all convulsive cases should be thoroughly studied to rule in or rule out the possibility of a tumor. It is true that many such thorough neurological investigations result in negative findings. On the other hand, the procedure is very worth while, since it assures us that we are not overlooking a condition that could be improved by a specific treatment. This thoroughness should also be appreciated by the patient's family. It is far better to do many cerebral air studies, spinal punctures, etc., and get negative results on many patients than it is to miss one patient with a brain tumor. These tests have a nearly zero mortality rate when a tumor is not present, the disability is short, and the information derived is extensive. Cerebral atrophy can be diagnosed only by this means.

Other tests of importance in diagnosing brain tumors are the EEG, the x-ray, and visual studies. The EEG will show a disturbance in the brain waves in 70% of patients with brain tumor. It has a slightly higher batting average in detecting convulsive disorders. This test, however, is like a blood count or urinalysis and it should not be interpreted as a conclusive diagnostic procedure. It serves only to supplement the neurological examination. Since it is painless and without danger, it can be used freely. However, its cost is greater than the illustrative tests mentioned and for this reason it should be reserved to only those cases that warrant it. It should not replace a careful, competent neurological examination.

The types of brain tumor are too numerous to elaborate at this time, except to emphasis that the most common brain tumor in adults is the astrocytoma, which occurs in 37% of diagnosed cases. It is the slowest growing of all gliomas and there are many cases alive after 10 or 15 years following sur-

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gical removal. Brain tumors in children present a much gloomier picture. This is true because of a high percentage of medulloblastoma which comprises 12% of all gliomas in children and is universally fatal. Some cases live as long as 3 years.

SPINAL CORD TUMORS are so rare that they should probably be omitted from a general discussion of this type. There are, however, easy neurosurgical methods of detecting this rare type of disturbance affecting the spinal cord. Pay particular attention to anyone complaining of back pain which awakens them or is most disturbing in the morning.

DEGENERATIVE DISEASES of the brain constitute a large group, of which cerebral atrophy is the most prevalent. This condition may stimulate brain tumor or epilepsy. Convulsions are common and should be controlled with the usual cerebral depressing drugs *after* tumor has been ruled out. If discovered at an early period, it can be helped by increasing the blood supply to the brain. This is done by cervical sympathectomy and by medical sympathetic aids. The same procedure can be carried out with cerebral thrombosis. Here, again, it is important to accomplish at least the temporary blocks at an early period before the brain has been deprived of blood for too long a period, although even several days after the incidence the procedure may have considerable value in preventing more extensive thrombosis. Some of the other degenerative lesions, such as multiple sclerosis, etc., have no specific treatment. Very high doses of vitamin B_{12} may be helpful.

CEREBRAL VASCULAR DISEASES are discussed under sympathetic nervous system disorders, except for the condition of intracranial aneurysm. This condition should be suspected in the occurrence of subarachnoid hemorrhage in the young or middle-aged person. These patients should have the benefit of cerebral arteriography. If aneurysm is found, it should be surgically controlled to prevent bleeding again. The mortality of ruptured aneurysm is about 30% with the first attack. Fifty per cent of those patients surviving a first attack will die with the second attack of leakage, which usually occurs within three weeks. In view of statistics like this, I feel that we are committed to attack this problem with courage. I personally have 5 patients now living and well with metal clips on vessels that have once bled. Other neurosurgeons have a much larger series. The procedure is an accepted form of treatment by all reputable neurosurgeons.

SYMPATHETIC NERVOUS SYSTEM DISORDERS include: cerebral thrombosis, cerebral atrophy, causalgia, angina pectoris, and disturbances of the circulation in the extremities, such as Raynaud's and Berger's diseases. The carotid sinus syndrome should also be mentioned. The treatment principle in all these conditions is to render the blood vessels less sensitive to the constricting action of the sympaticomimetic system. It is common knowledge that a thrombosis throws adjacent vessels into spasm. In advocating sympathetic block and sympathectomy for cerebral thrombosis, I do not mean that devitalized brain tissue can be revived. I do mean, however, that a neurological deficit due to spasm of surrounding vessels can be relieved to a great extent by interrupting the sympathetic impulses. Sometimes results are dramatic in the return of function; often there is no change. The procedure of novocain block is easy, safe, and inexpensive. If there is any indication of benefit from the block, a superior cervical sympathectomy should be done, if the condition is chronic. This procedure also has the favorable attributes of ease, safety, and reasonable cost. At the time of sympathectomy, the carotid artery can be explored and if a clot is present it should be removed. This has been done in five cases of thrombosis of the internal carotid artery. In each case the thrombus was a hard, calcified plug. One case made a dramatic recovery and remained well for 3 years:

Mr. A. De. G.—Age: 46 years, had a gradual onset of weakness in the right arm, which eventually included a complete global aphasia. An arteriogram showed obstruction of the internal carotid artery at the bifurcation in the neck. The vessel was opened and a hard, calcified thrombus was removed. This thrombus extended distally into the internal carotid artery for a distance of 1.5 cm. The vessel wall was sutured with fine silk. An arteriogram made one week later showed a normal cerebral vascular pattern. The patient made a slow recovery, but regained all functions of speech and right-sided motor function, except for fine movements of the fingers on the right hand.

CONGENITAL DEFECTS OF THE NERVOUS SYSTEM bring to mind two rather common conditions which should occupy a minute or two of attention. The first of these is hydrocephalus. It is unwise to be

a defeatist and feel that nothing can be done in this field. I have seen patients, treated by Drs. Putnam and Scarff over 15 years ago, who are normal, healthy individuals—going to school like other children and giving their families the happiness they deserve for demonstrating their confidence in the neurosurgical treatment of this condition. In these cases, the choroid plexus was destroyed by cauterization and thus the spinal fluid was markedly reduced at its source. There are other procedures that are effective, but only when you, the doctors in the first echelon, refer the patients at an early age.

The second condition which is so successfully treated by neurosurgical means is the premature closure of one or more sagital sutures. This results in a long, narrow head (scaphocephaly), or some other disturbance in shape, such as "turret" head, etc. In this condition the brain does not have proper space for normal growth and an operation is necessary to provide this space. The gratifying results obtained from neurosurgical treatment of these abnormalities make it a grave offense to overlook the opportunity of such treatment. If you fail to guide them into proper hands at an early age, they will be mentally retarded.

Other congenital deformities, such as spina-bifida, etc., are all worthy of at least neurosurgical consultation.

MISCELLANEOUS CONDITIONS such as Meniere's disease, torticollis, otitic hydrocephalus, etc., all have a specific neurosurgical treatment, if they are severe enough to warrant it. To determine the severity, these patients should have the benefit of neurosurgical opinion.

Although it has been possible to discuss these conditions only briefly, considerable care has been taken in selecting the subjects included. I believe that the physician in general practice can expect and get much help from the neurosurgeon in the types of cases discussed. In turn, the neurosurgeon must depend upon the general practitioner for many aids to the patient. For his intimate knowledge of the patient's background, for the direction of the patient to specialty consultation in ample time, and for his continued concern and assistance with the patient's economic and physical well-being. Especially in the new concept of selecting the particular specialist who can provide maximum benefit for his patient, the general practitioner can strengthen the link of mutual benefit for all.

Number of Physicians Reaches New High.

A record graduation of 6,861 physicians during the past year by our nation's medical schools has boosted the ratio to an all-time high of one physician for every 730 persons in the United States. This ratio will be lowered even more in the next few years as the number of medical graduates is expected to rise due to the continued expansion of the country's medical schools.

Today's physician population has now reached approximately 220,100. The record graduation figures were released in the 54th annual report on medical education in the United States by the American Medical Association's Council on Medical Education and Hospitals.

Highlights of the report:

* Enrollment of 28,227 is largest number of medical students in history of U. S.
* Freshman class enrollment of 7,449 also is a record.
* More than 76 million dollars was spent during 1953-1954 for new facilities, remodeling or completion of buildings for medical instruction.
* Budgets for medical schools during 1954-1955 total more than 143 million dollars.
* 21,328 physicians did volunteer teaching without pay during the year.
* Ten new four-year schools are in construction or planning stages and will be in operation within the next few years.

The ten new four-year medical schools will be at the Universities of California, Mississippi, Miami, Missouri, Florida, West Virginia, Kentucky, North Dakota and Yeshiva University of New York and Seton Hall University. In addition, three other medical schools are being considered.

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BRONCHIAL ASTHMA—
Diagnosis and Management*

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During the past quarter of the century there have been many advances in all fields of medicine and it has been an interesting observation to watch the advancement in the field of allergy and particularly in the handling of asthmatic patients. Those of us who have taken up the specialty of allergy and have been fortunate enough to have had specialized training in this field can appreciate the necessity for handling our patient as a whole and not to attempt to treat one particular symptom or system of the body. In other words, we must go into a systematic investigation of patients complaining of dyspnea, wheezing, or bronchial asthma or other allergic manifestations in a manner that will enable us to arrive at an accurate diagnosis and set up a program of management on a firm foundation.

For purposes of simplicity in the discussion of diagnosis and management of bronchial asthma, I will group my remarks under the following headings: 1. Criteria for diagnosis of bronchial asthma. 2. Differential diagnosis of bronchial asthma from other causes of dyspnea and wheezing. 3. The management of acute attacks of asthma and or *status asthmaticus*. 4. The management of chronic asthmatics and recurring attacks. 5. Diagnosis and management of bronchial asthma, specifically for children, from infancy to early childhood.

CRITERIA FOR DIAGNOSIS OF BRONCHIAL ASTHMA

Bronchial asthma may be characterized by cough, wheezing, dyspnea, orthopnea, cyanosis, expectoration, prolonged expiration, symptomatic relief by sympathomimetic drugs and recurrent attacks. The importance of history taking in the investigation and handling of allergic patients cannot be over-emphasized. In general, there is considerable lack of uniformity and a variance of methods of taking a detailed history. The significant features to be elaborated in *chief complaint* are descriptions of typical attacks, onset, whether sudden or insidious, associated with major attacks or mild attacks, and the determination of cardinal symptoms and whether there was accompanying fever and pain. The severity of the attacks may be classed mild, average or severe. It is well to bring out frequency, duration of the attacks, and whether the symptoms are constant in terms of hours, days, weeks, or longer periods. Seasonal exacerbations are significant not only in the diagnosis but also in the treatment. The relationship of geographic locations, changes from one section of the country to another are noteworthy, as is weight loss or recent periods of weight gain. Environmental contacts include not only the patients' residence, but the details as to the surroundings of his residence, including bedroom, grounds, neighborhood, occupation, effects of temperature, wind, rain, or other climatic factors, habits of bathing, contact with other persons, relationship of symptoms, and the effect of hospitalization.

Non-specific factors which may be considered include infections or foci with or without fever, or other associated allergic manifestations or complications. Gastro-intestinal upset, emotional factors, physiological disturbances, including menstruation, pregnancy, or a menopausal syndrome should also be considered.

Foods, habits, likes and dislikes, relationships of symptoms and meals, or associated gastro-intestinal distress are worthy of consideration.

Drugs taken include frequency or infrequency of ingestion of drugs, either by mouth, locally, parenterally and those drugs the patient has had, giving relief or no relief. It is well to determine the patient's response to common symptomatic measures, including sedatives, analgesics, and determine the patient's response to the various antibiotics, and any drug sensitivities should be recorded.

Other manifestations of allergy should be carefully enumerated as their existence enhances the diagnosis of an allergic etiology in the bronchial asthma.

A significant family history, including parents, brothers, sisters, grandparents, aunts, uncles, with lists of manifestations, are of definite value.

A detailed physical examination is extremely im-

*Presented at the fourth annual Scientific Assembly of the Virginia Academy of General Practice and a Section of the Virginia Chapter of American College of Chest Physicians, Jefferson Hotel, Richmond, Virginia, May 5, 1954.

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portant, noting the characteristic posture of the patient during acute attacks of bronchial asthma, as well as anxiety and variations in physical findings. Possible associated evidences of bronchial asthma during remissions, include emphysema, chest deformities, increase in anterior and posterior diameter of the chest, as well as a reduction in the vital capacity. Other evidence of the presence of an allergic state includes the various systems and one should particularly search for ocular, nasal, pharyngeal, bronchial or dermal manifestations of allergy.

Diagnostic procedures including sensitization studies which may be divided into dermal, including scratch, intradermal, patch, or passive transfer tests, as well as mucous membrane studies with ophthalmic or nasal contact tests. Other diagnostic aids include the use of food diaries, elimination diet, clinical exposures, inhalation, injection as well as the ingestion of potential offending allergens.

It is well to classify the major offending agents into groups of inhalants, injectants, infectants, as well as physical agents, and there may be miscellaneous contributing factors, including those of endocrine, psychosomatic, and bichemical types. Noteworthy laboratory procedures include examination of secretions for eosinophiles, which may have a variance of 5% to 20% in the blood, and in the sputum or nasal secretions it is not uncommon to see up to 95% or higher. Routine laboratory studies in asthma are important as in other conditions, and, in selected cases, certain blood chemistries are of infinite value, including CO_2 combining power, blood sodium, potassium, chlorides, sugar, and, in certain instances, a sedimentation rate, and particularly a total eosinophile count may give worthwhile information.

Differential Diagnosis of Bronchial Asthma from Other Causes of Dyspnea and Wheezing

In the consideration of the differential diagnosis of bronchial asthma from other causes of dyspnea and wheezing, one not only has to consider those aids as outlined above under Criteria for Diagnosis of Bronchial Asthma, but, in addition, other laboratory supplemental aids, including roentgenographic studies, bronchoscopies, lipiodol bronchograms, vital capacities, electrocardiograms, etc. It is necessary that one exclude obstruction to the larynx, substernal goiter, membranous croup, foreign body in the bronchus, retropharyngeal abscess, aneurysm, neoplasm, tuberculosis, Hodgkins, disease, Loeffler's syndrome, tropical eosinophilia, bronchiectasis, silicosis, cardiac asthma, heart disease, psychosomatic disturbances, enlarged thymus, and other conditions.

The causes of wheezing include etiological factors, as atopy, infection, physiological, cardiac, psychodynamic, chronic lung disease, bronchial obstruction, etc., resulting in bronchial narrowing from spasm, edema, and secretion, all of which may produce wheezing.

The more frequent complications include emphysema, bronchitis, bronchiectasis, atelectasis, or massive collapse, allergic conditions and lung abscess.

In the *Journal of Allergy,* Swineford[1] has presented an excellent article in which criteria are presented by which cause of wheezing can be recognized and classified into: "Atopic (allergic and infectious); group 2, reflex, psychogenic, physical and chronic lung disease; group 3, cardiac, bronchial obstruction, and idiopathic." He further sets forth reasons for the adoption of this classification.

Management of Acute Attacks of Asthma and Status Asthmaticus

The non-specific treatment of acute attacks of bronchial asthma usually includes the use of epinephrine or adrenalin, 1/1,000, in dosages of 0.2 cc. up to 1.0 cc. hypodermically, or epinephrine, 1/100, by Aerosol in adequate doses to control symptoms and the avoidance of an adrenalin reaction. Repeated doses of both of these preparations may be considered after an interval of five to ten minutes and it is of value in certain cases to give repeated small doses subcutaneously if the patient does not respond to the initial dose.

As stated above, the most important drug in the treatment of bronchial asthma is epinephrine. Every physician should always have this drug available in 1/1,000 solution for intramuscular administration, and repeated small doses in multiple locations in amounts of 0.2 cc. to 0.5 cc. are preferable to larger doses, which may give some local vasoconstriction, preventing the absorption of the drug. Epinephrine is either peanut oil or sesame oil, in dilutions of 1/500, has a more prolonged reaction; however, one must recognize potential sensitivity to the oil or vehicle. It is important to use a dry syringe to prevent too rapid absorption of such a drug. Intravenous epinephrine 1/1,000 may be given in doses of ½-1 cc. as an infusion in 500-1000 cc. of 5%

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glucose or saline. The rapidity of flow should be gauged according to the patient's tolerance. Nebulization with epinephrine 1/100, Isuprel, 1/200, Lilly's Aerolin Compound, Asthmanephrine, and similar drugs are very worthwhile when used in a DeVilbiss #40 nebulizer. Following this type of inhalation therapy, the patient should be instructed to gargle with water immediately and expectorate same as these drugs frequently constrict the mucous membranes and may produce secondary coughing.

Mild sedatives and antihistaminics such as Benadryl or Phenergan may be worthy of consideration at night. Patients having severe bronchial asthma or *status asthmaticus*[2] require hospitalization, preferably in a private room. It is desirable to minimize the patent's exposure to common allergens such as dust and feathers and one should insist on a dustproof mattress and pillow cover for the patient, or the use of a rubber mattress and pillow. It is desirable in certain instances to have these patients in an air-conditioned environment, controlling the exposure to dust and pollens. This is particularly desirable during a pollen season; however, some patients do not tolerate air conditioning.

These patients should be kept as quiet as possible and given plenty of reassurance. Psychotherapy is extremely important in many of these acutely ill patients who feel that they are on death's bed. Dietary restrictions are warranted depending upon the patient's symptoms and known or suspected food allergies. In those cases that are severely or acutely ill, nasal feeding or Levine tubes, which may be left in place for several days, is extremely important, particularly if the patient is too weak to eat or to take adequate fluids. It is also desirable to reduce gastric distention with aid of a Levine tube. Oral medications may be administered through this route.

It has been said that hydration of a patient is one of the cardinal therapeutic adjuvants. In those patients who are not taking adequate amounts of fluids by mouth, glucose may be given intravenously in either 5% or 10% solutions in water or normal saline. At times, it may be desirable to administer 50% glucose in combination with 0.1 cc. of epinephrine, 1/1,000 intravenously, particularly if there is considerable moisture in the chest. The use of intake and output charts are extremely valuable to determine the patient's state of hydration and elimination.

Next to epinephrine, aminophyllin is one of the most important if not the most important therapeutic agent in the handling of those patients with *status asthmaticus* or termed as being "epinephrine fast". The intravenous administration of aminophyllin in dosage of 3¾ grains to 7½ grains given very slowly in amounts of 1.0 cc. per minute often are very effective and dosages may be repeated at specified intervals of every 8 hours or may be given when necessary. I have found it advantageous to give rectal aminophyllin, grains 3 to 7½, dissolved in water in combination with chloral hydrate, 10-30 grains, as a retention enema, twice daily or more frequently, depending upon the patient's need. Often, these patients who do not tolerate suppositories find these retention enemas offer them rapid relief and are tolerated quite satisfactorily.

The sublingual use of sympathomimetic drugs, such as Isuprel, in doses of 5-25 milligrams, or Nephenalin tablets, taken sublingually for five minutes and subsequently swallowed, offer asthmatics at times rapid symptomatic relief.

The above mentioned broncho-dilating drugs have rather rapid action and the Nephenalin is a combination of the rapid and slower acting broncho-dilators. Other slower broncho-dilators are Ephedrine in doses of 3/8 to 3/4 grains and Desoxyn, Nephenamine, Propadrine, Orthoxine, which may be of value given orally, alone or combined with Theophyllin drugs and sedatives. These may be obtained under the trade names of Amodrine, Tedral, Amesec, etc.

On occasions, the intramuscular or intravenous use of antihistaminics, such as Benadryl and Decapryn, are effective in bronchial asthma, particularly in those cases resulting from drug or serum reactions. These antihistamines have an excellent sedative reaction in selective cases.

Hormones may be given orally in the form of Cortisone, in divided dosages, at 8 hour intervals in amounts varying from 50-100 milligrams per dose with a descending scale of dosages over a period of several days.

ACTH may be administered in 500-1000 cc. of 5% glucose intravenously over a period of 12-48 hours or given intramuscularly in dosages of 10-40 units every four to six hours. The use of these hormone drugs improves the vital capacity, appetite, physical activity, as well as giving the patients a sense of

well being. It is necessary to continue other therapeutic measures usually during the initiation of therapy with these hormones. However, these may subsequently be withdrawn from the therapeutic program. Acthar Gel in amounts of 10-40 units intramuscularly over a period of several days at intervals of 12-24 hours has proven to be very helpful in selected cases.

Expectorants, such as potassium iodide, given alone or in combination with Fowler's solution, have been in use or many years. Arsenic in the form of Fowler's solution must be given with extreme caution. This drug happens to be one of the important ingredients in a mixture given many asthmatic patients by a Dr. Gay, of Biloxi, Mississippi. Other expectorants include syrup of hydriotic acid in doses of 2 cc. to 5 cc., ammonium chloride in the form of enseals, grams 1, q.i.d., fluid extract of ipecac, 1 to 4 drops, or larger doses in older patients.

Adequate sedation is extremely desirable in these patients to allay apprehension and to enable them to get adequate rest. Chloral hydrate in dosages of 15-30 grains, by mouth or per rectum, given alone or in combination with sodium bromide, in dosages of 20-40 grains is one of the most efficacious sedatives. Barbiturates, including sodium phenobarbital, Nembutal, Seconal, Amytal, Sodium Amytal, are of definite value. Paraldehyde may be given rectally and occasionally intramuscularly in dosages of 2-10 cc. The intravenous use of barbiturates as an anesthetic is contraindicated. Ether may be administered by inhalation or *per rectum* in combination with oil, in equal amounts in combined dosages of 5-7 ounces and 1½-2 ounces for children, depending upon their weight. Sweet oil, cottonseed oil, peanut oil, olive oil may be used, but care must be exercised to prevent the patient from receiving an oil to which he is allergic. The use of a small catheter in the administration of these retention enemas is important to prevent the expelling of the material. A re-breathing tube should always be available when this type of therapy is employed.

Oxygen may be administered by one of several methods, either nasal, mask or tent administration, depending upon the age of the patient and the degree of dyspnea and cyanosis and the equipment available. Other modes of administration include the open and closed mask method. Combinations of helium and oxygen, 20% oxygen and 80% helium is more effective than oxygen alone in certain hands, as this mixture enables the patient to breathe more comfortably with less effort.

Bronchoscopy is frequently employed to remove tenacious mucous plugs and may be a life-saving measure on occasions. A local anesthetic is not necessary when bronchoscopy is performed in patients with severe bronchial asthma. Should one be used, precautions should be exercised in those cases, as these agents sometimes may cause fatal reactions.[3]

MANAGEMENT OF CHRONIC ASTHMATICS AND RECURRING ATTACKS

In addition to the above mentioned measures for the control of acute asthma, one must consider, in these individuals having recurring or chronic asthmatic attacks, other forms of therapy. Particularly, one should consider broncho-dilators, such drugs as delayed action Tedral and Amodrine, Ephedrine, Nephenamine, given alone or in combination with other drugs, are found to be beneficial. Expectorants in the form of potassium iodide or combined with Fowler's (arsenical) solution or the use of enteric coated ammonium chloride in dosages of grams 1, several times a day, and Robitussin prove efficacious. Asthma powders in certain patients appear to be helpful, the active ingredients being ammonium and nitrates. However, one must keep in mind that some patients may be allergic to asthma powders. Aerosol therapy with Alevaire facilitates postural drainage. It may be taken alone or in combination with a bronchodilator and antibiotics. This type of drug may be administered several times daily and amounts may reach as much as 500 cc. per day. Tryptar (Armour) has been found to facilitate the clearing of the bronchial passage of the thick, tenacious mucus.

Specific therapy includes avoidance, then elimination of the offending substances to which the patient is known or is suspected to cause trouble. Air filtering and air conditioning are of value in certain occupational causes of asthma and in pollen sensitive patients especially. Dietary restrictions are important in those cases with known food sensitivities. Initial dietary programs should be temporary and later modified by the addition of one food at a time unless such a food be proven to be a frank offender.

Hyposensitization with such allergens as inhalants, molds, pollens, epidermals and autogenous vaccines is indicated in those cases where complete avoidance

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does not control the patient's symptoms.[4] Methods of hyposensitization with pollens include pre-seasonal, perennial, and co-seasonal treatments. Schedules should be followed carefully and modified according to the patient's tolerance and response to treatment; when there is too long a lapse of time between injections, reactions are more likely.

Reactions are divided into immediate and delayed types. The delayed reactions require a reduction of dosage. The constitutional reaction or the immediate reaction requires the application of a tourniquet proximal to the site of the injection and into the site of the injection, one should administer 0.1 cc. to 0.2 cc. of epinephrine, 1/1,000, and doses of 0.1 cc. up to 0.5 cc. may be administered in the opposite arm. Varying dosages of epinephrine may be repeated at few minute intervals depending upon the patient's symptoms. When there is evidence of anoxemia, oxygen therapy is mandatory. Autogenous extracts are often of proved value when stock vaccines are ineffective in the management of specific therapy.

Breathing exercises are worthwhile in those patients having chronic dyspnea accompanying bronchial asthma or with accompanying emphysema.

Psychotherapy in selective cases has been found to improve the ambulation and progress of the patient. Foci of infection should be either excised or controlled by antibiotics.

THE DIAGNOSIS AND MANAGEMENT OF BRONCHIAL ASTHMA IN CHILDREN FROM INFANCY TO EARLY CHILDHOOD

The consideration of allergy in childhood and particularly the differential diagnosis and preferred methods of treatment have been presented in an excellent manner by a number of men including Glaser,[4,5,6,7] Peshkin,[8] Dees,[9] Unger,[10] Ratner,[11] and Bowen.[12]

Differential diagnosis of bronchial asthma from other causes of wheezing was brought out in the preceding section, and in dealing with children, in particular, one must exclude congenital stridors of various origin and suspected foreign bodies in the bronchi. Foreign bodies occur more commonly in infancy and childhood than in older age groups and these cases may simulate the signs and symptoms of bronchial asthma. In the consideration of the signs of bronchial asthma in children and adults, one must realize that the infantile type of respiration is primarily abdominal, and gradually changes toward the adult type of respiration which is chiefly thoracic. Glaser[7] has reviewed further the principle differences, namely, "the dyspnea in infancy and childhood is not so characteristically expiratory as in older individuals; the asthmatic infant may appear relatively comfortable even when flat on his back, probably due to the abdominal type of respiration, together with the greater softness and flexibility of the thoracic cage; the absence of an expression of their anxiety on the part of the child is often in certain contrast to that of the adult." Capillary bronchitis or bronchiolitis in very young infants strongly resembles bronchial asthma accompanying an infection. The consideration of therapy in children not only warrants the above mentioned measures, particularly in patients with acute asthmatic attacks, and also *status asthmaticus*, but, in addition, children particularly should be put to bed in order to restrict their activities and to control changes of temperature and humidity to which they are subjected by ambulation. Steam inhalations particularly are advantageous in children when the air is dry. These may be supplemented by steam medicated inhalations, as suggested by Prigal[13]. Nose drops are of definite benefit, particularly in young children in the form of ¼% Neosynephrine (Winthrop-Stearn) and others. These should be administered prior to nursing or the child's taking his formula, facilitating the swallowing and easier ingestion of the meal and, by so doing, to permit adequate nasal breathing. Personally, I feel that nose drops containing vaso-constrictor drugs in combination with antibiotics are of extremely limited value and are potential sensitizors. In children, as in adults, Demerol may be administered *per se* or in combination with a mixture of epinephrine. Demerol in dosages of 0.5 cc. to 0.8 mg. per Kg. of body weight may be given along with 0.2 cc. to 0.3 cc. of epinephrine, 1/1,000. Opiates, however, are generally contraindicated in the treatment of bronchial asthma on account of their depression of the respiratory center and an inhibition of the cough reflex.

Stoesser[14] has emphasized the point that the general practitioner pediatrician as well as the allergist should not tell the parents of a child that children will outgrow an asthma, as it has been proven recurrently that this is an error, as many children

are subject to repeated subsequent attacks. The statistics of asthmatic children treated by allergists show that 3% of these children, while they are on treatment may go ahead and have chronic asthma; however, of the children having asthma and treated by pediatricians and general practitioners, 20% of these children continue to have quite severe asthma and prove to be very difficult problems and at times permanent cripples.[14] We often note that asthma in children does not disappear spontaneously. These children will not outgrow it; we are going to see them later. If the skin of many asthmatic children is dry, this may be evidence of sensitivity of the skin in addition to the asthma, particularly in the popliteal and cubital areas and it is necessary for the doctor to hedge on the prognosis because these children are going to be dual problems of a combination of asthma and eczema. A number of children with asthma have definite food sensitivities and also inhalant sensitivities, and strict dietary programs are worthwhile.

Antihistaminics are used in large amounts by general practitioners and pediatricians both in the treatment for symptomatic relief of asthma. They work all right temporarily but frequently they peter out and cause more harm than good. Iodides are of extreme value, not only to loosen up an asthmatic cough, but as a preventive measure until the asthma is brought under control. The use of antibiotics in children as well as adults is extremely important, particularly in handling those asthmatics with superimposed infections. Bacterial sensitivity studies also indicate which antibiotic is most desirable as well as efficacious. The use of autogenous vaccines in both children and adults are of great value in selected cases.

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PRACTICAL ADVICE ABOUT HANDEDNESS*

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The topic of handedness, with its implications of the existence of cerebral dominance, has some general medical interest, and also is rich in possibilities for philosophical and metaphysical speculation, and in cultural, educational and psychological implications. The literature is extensive and not readily available, while the frequency of situations in which the question seems important is not great. These circumstances make it easy for a sort of medical mythology to be perpetuated to the detriment of both the practitioner and the patient. It is our purpose to present a very brief review of handedness and of cerebral dominance in neurophysiological and developmental terms to establish a basis for our attitudes towards the training of children in handedness, and towards the unimportance of cerebral dominance in the handling of reading and writing difficulties and of stuttering and stammering.

Throughout this discussion we are using this concept of handedness: A mature person usually uses one particular hand for most of the routine and skilled activities which involve a choice of hands, although frequently the hand of choice is only the "lead" hand in activities in which the two hands function in a complementary fashion. Throughout the discussion, too, is implicit the concept that the existence of handedness means that the cerebral hemisphere on the side opposite to the apparent dominant hand has developed a high order of integration of skilled activities, and that in this same dominant hemisphere will usually, although not always, be found also the specialized areas for language.

The origins of the functional patterns reflected in handedness are lost in dim antiquity. Very earliest man, it appears, from traces such as flints used to shape arrowheads and obviously designed to be used only by a left hand or a right hand, demonstrated some degree of hand preference. He also possessed some sort of speech. These phenomena of unilaterality: sharp restriction to one hemisphere of functional control of highly skilled movements and of language are characteristically human. Hildreth[1] quotes careful studies on chimpanzees showing that right and left handedness is equally distributed, just as in the human infant. In agreement with this are the frequent observations that the feebleminded populations show a high incidence of "left handedness" or, to put it another way, much less perfection in common right handed skills. The perfection of handedness as an adult characteristic, however, is not only the product of intellectual development but also involves a certain degree of social development. Studies of ancient man and anthropological data derived from studies of present day primitive societies show much less right hand preference than found in the communities of the highly organized and specialized Western World. For that matter, left handedness will be proportionately low in any civilized groups in which the common people learn to read and write, shake hands with one hand, eat with specified instruments and are employed in industries which require use of intricate tools.

In the very complex Western World with the high order of skills, both social and industrial, required of the average adult and the tremendous social pressures brought to bear on the developing child, somewhere between 1 and 30% of the population is left handed. The wide variation in these figures reflects uncontrolled variables such as the age levels of the subjects, their mental ability, the nature of the capacities tested, the frequency and types of observations made and the cultural background of the population studied, plus the use of excessively small groups. The best estimates seem to be those of Nielsen[2] (10%) and Hildreth[1] (5%—for older members of the population measured by skills that are directly taught, e.g., writing). According to Hildreth,[1] about 7% of younger school children on the average show strong left handed tendencies, with the proportion apparently increasing slightly in the years since World War I, possibly due to relaxed home and school attitudes in training children.

At times figures on handedness have been derived which coincide neatly with genetic computations. However, in our opinion no definite evidence has

*Reviewed in the Veterans Administration and published with the approval of the Manager. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

been presented which demonstrates without room for disagreement that there is a tendency for either right or left handedness to "run in families" on a hereditary basis (Hildreth[1]).

There is not only a lack of definite evidence that cerebral dominance is an inherited characteristic, but also there is no evidence that there is an observable structural difference between the two hemispheres. Orton,[3] the "father" of much of the investigation into the role of the two hemispheres in speech and language disorders, himself noted that the gross anatomical changes sometimes described between the two hemispheres are well explained by the very frequent mild skewness of the brain in somewhat shifted cranial vaults. There are no demonstrable differences in quantity of cells and fibers between the two hemispheres. In addition, there is no difference in the electroencephalographic pattern between the two hemispheres, nor a demonstrable difference in chemical functioning. On an anatomical basis, as Nielsen[2] says, the "hemispheres start through the world together, equally incompetent."

The development of specialized skills, such as handedness, in children will depend upon their capacity to utilize experience. With the increasing myelinization of the afferent systems of the central nervous system, the responsiveness of the cortex to sensory stimuli develops in the infant. The electroencephalogram, at first showing potentials only during sleep, begins to show potentials during rest and excitation in response to distance receptors. Gradually the individual becomes capable of responding to environmental stimuli with finely graded reactions involving sensory and motor integration at the cortical level. The "adaptive responses thereafter increase in complexity with further age and further development of the brain through the utilization of individual experience and memory" (Gellhorn[4]). Neurophysiological data, then, suggests that the infant begins with equal potential of learning in each hemisphere and that the development of the central nervous system subsequent to birth and the patterning of neuronal relationships on the basis of contacts with the environment make possible the specialization in the use of one hand, and of unilateral organization of language patterns. This suggestion is bolstered by the observation that a child under two years of age (who will have already begun to show a trend towards the establishment of dominance), suffering a cerebral accident resulting in the loss of function of the presumed dominant side, will show no real impairment of the development of speech or in skill with the remaining hand.

The suggestions in the physiological data seem borne out by the clinical observations of the development of patterns of handedness by Dr. Gesell[5] and his associates. They noted that lateral dominance of the cerebral hemispheres as reflected in a child's use of his hands fluctuated from one side to the other as the child developed, and that the rate of the development of definite hand preference varied from child to child. They felt that hand preference makes its appearance sometime during the second half year of life and is more marked after 18 months or two years, though for many years subsequently, definite predictions with regard to the pattern of handedness that will be displayed in adulthood cannot be made. Even after handedness is firmly established, the adult may use his "non-dominant" hand in the acquisition of highly specialized skills such as fingering a violin, suggesting that dominance is largely a matter of convenience rather than necessity.

In our opinion, the best explanation for the phenomenon of handedness is that it is the product of developmental integration; people are not born to be right handed but have learned to be; they have developed "habitual behavior influenced by circumstances of a strong and biasing character operating throughout the growth period" (Hildreth[1]). That there is a neurophysiological basis for response to the "circumstances of a strong and biasing character" seems indicated by Gellhorn's[4] discussion of the role of hypothalamic-cortical interchanges in the facilitation of cortical activity with its implications that strong feelings (such as those frequently engendered between parents and children) will strongly influence cortical processes, hence learning and resistance to learning.

We have concluded that it is erroneous to assume that individuals should not be trained in handedness. We feel that it is important for parents to train their children in handedness, using the basic principles of: persistence without forceful pressure, patience, acceptance of errors, and easily recognized rewards for good performance. From the beginning, the spoon should, for example, be offered to the child's right hand, but not jerked from his left if he should experimentally use that hand for a time. We are

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concerned that the "training" actually not be a program "insisted" upon, but rather a subtle, gentle moulding of the trends in development as they make their appearance and are yet plastic.

At times much has been made of the serious speech or "nervous" problems that may ensue when a child is required to change handedness. That there can be serious emotional problems involved in radical revision of long established patterns of behavior, we are quite convinced; we are equally convinced that the difficulties reported are the result of such emotional factors and not of interferences with the basic patterns of cerebral dominance. If a child must change handedness due to injury or disease, the importance of emotional elements should be appreciated. If a child arrives at school age with a well established pattern of left handedness, it is not imperative to change; the relative increase in comfort in right-handed living should be weighed by an expert, following detailed history-taking, testing and observation, against the degree of fixation of the pattern, the child's emotional capacities, and the attitudes of family and school. If continuation of left-handedness seems in order, teaching methods should include demonstrations of the comfortable way to write in a left handed way, and both home and school should attempt to minimize the social distinctions unwarrantedly made about the presence of left-handedness.

In children who develop speech problems such as stuttering and articulatory disorders, together with those who manifest difficulty in the establishment of conventional reading and writing habits, current practice assigns only a negligible role to the question of handedness. Bradley[6] notes that the "frequent association of such a difficulty with left handedness or ambidexterity has proved to be coincidental rather than one of cause and effect." We know of no practicing speech pathologist who considers a change in handedness as a definitive part of treatment. Johnson[7] does not even mention the subject of handedness. He outlines instead what might be termed a "psychological" approach, making a number of suggestions for easing or eliminating emotional conflicts in the child, epitomizing his general orientation in his final suggestion to the mother, "Be as friendly and considerate to your own child as you would to a house guest." Another therapist (Glauber[8]) who has attacked the problem from a psychoanalytic approach presents vigorous disagreement with the suggestion that the handedness of an individual or his cerebral dominance has anything to do with stuttering.

In the area of reading problems in children, a similar decline of the importance attributed to handedness and disturbances in cerebral dominance as etiological factors is evident. Gates[9] states the conservative viewpoint as follows: "At the present time, it might be said that the evidence of and the extent to which hand and eye dominance contributes to the difficulty in reading is by no means clear. The tendency, however, seems to be definitely in the direction of minimizing the importance of these factors." We are even more in accord with the viewpoints of Witty and Kopel[10] and of Fernald.[11]. The first two found that 60% of deficient readers showed no evidence of mixed dominance and concluded that "mixed dominance has no correlation with reading ability as measured by standardized tests," and also "reversals (writing and reading backward) are correlated with immaturity and not with dominance." Fernald[11] found only 6 of 66 children with reading problems to have mixed dominance and concluded that reading problems are due primarily to bad reading habits inculcated in children who are introduced to reading before they were mentally able to grasp the material.

In carrying out treatment, then, the questions of mixed cerebral dominance and shifts in handedness have no important role. For example, we look upon stuttering as a veiled expression of hostility or resentment against significant persons in the stutterer's environment, and so feel that treatment should attempt to ameliorate the home situation engendering such feelings, if the stutterer is a child, or to change or modify his attitude toward himself and others if the stutterer is an adult. In either case an attempt should be made to teach the patient how to "stutter" in a less obvious, socially penalizing manner, thus reducing the anxiety level attending speech situations and enabling him to see himself as a less deviant person (Johnson[7]). In reading cases, after ruling out intellectual, visual, auditory and general physical factors, the child's emotional attitudes toward reading should be determined and the possibility explored that he may be using the deficiency as an attention-getting or retaliatory measure. After such issues have been clarified, the therapeutic prob-

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lem will be one of motivating the child to learn a skill which will ultimately bring him satisfaction and of correcting or ameliorating home conditions so that he no longer "needs" his reading deficiency for conflict resolution.

Summary

The question of the handedness of patients and what to do about it from time to time arises in the practice of every physician. Standard neurological texts throw little light on the methods of determining handedness, its causes, and its consequences, but there is an extensive literature which shows nothing that clearly substantiates the widely held opinions that there is something basically anatomical about handedness or that it "runs in families" on a distinctly genetic basis. The practical conclusion is that the modern world is a "right handed" world and that part of "bringing up children" should be a recognition of this fact, and, from the outset, subtle encouragement to the child to use his right hand in the development of skills. Once the "left handed" pattern has become established, usually not definitely apparent until school has been started, the decision with regard to changing is one that should be made following expert evaluation with particular regard for the emotional problems in child and parents that are present or may develop if changing is insisted upon. In the handling of speech and reading problems the role of cerebral dominance as a contributory factor has been increasingly minimized. It is no longer the custom to attempt to modify handedness in order to prevent language disorders arising from "confusion between the two hemispheres."

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BRAIN ABSCESS ASSOCIATED WITH CONGENITAL HEART DISEASE—
Report of Surgically Treated Case with Brief Review of Literature*

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When intracranial symptoms develop in patients known to have congenital cardiac or pulmonary disease, the clinician usually thinks of cerebral embolus, hemorrhage or thrombosis; however, *brain abscess* is also a distinct possibility and neurosurgeons are more and more becoming aware of the likelihood of such a lesion, particularly when associated with congenital heart disease in children or adults. We have had such a recent case in a 22-year-old male patient. He had had the Blalock-Taussig operation with very satisfactory outcome several years before the onset of serious intracranial symptoms which required craniotomy, preceded by ventriculography, which showed a mass lesion in the left cerebral hemisphere. This proved to be a large encapsulated abscess in the left temporal lobe which was sucessfully drained by a simple catheter left *in situ* for several weeks in the abscess. The patient recovered and has been doing satisfactorily to date. Cases involving children will also be cited from the literature and brief comment on the known pathogenesis and methods of recognizing the syndrome pre-operatively will be presented.

Galbraith[1] of Birmingham, Alabama, in October, 1951, described his experiences with cerebral abscess in association with congenital heart disease. He stated that these patients may be in the sixth or seventh decade of life, although most clinicians are more familiar with the lesion in children. The onset is often associated with an upper respiratory tract infection. Usually in the fatal cases bacterial endocarditis or pulmonary suppuration is not found. It is believed now that seven per cent of congenital heart disease cases die of brain abscess and not of their congenital vascular disease. Forty or more of the cases that he reviewed in his own service and in the literature were single lesions, only two were multiple, making the lesion therefore more favorable surgically than might be supposed. Septal defects are common in the cardiac lesions under consideration. The infection is presumed to go through the septal defect to the pulmonary artery, thus by-passing the pulmonary circulation. The premonitory symptoms are usually fever, vomiting and increasing stupor. One must be on the alert not to ascribe the symptomatology to a cerebral vascular accident incident to the congenital heart disease. Galbraith had three *personal* cases, two of which were operated upon and recovered, and one was discovered only at post-mortem examination. Often in the fatal cases the patients are given diagnoses of polycythemia and associated cerebral thromboses with congenital heart disease. In some cases, one must operate because of fulminating symptoms before the capsule has formed, which is usually not advisable or desirable, as all neurosurgeons are aware. At the time of Galbraith's report (1951) only seven of the forty-five cases operated upon in the literature had recovered. The usual neuro-surgical procedures recommended are to do a ventriculogram, localize the lesion in that fashion (as was carried out in our patient, reported in this paper), and then to drain the abscess by the simplest means—usually catheter drainage.

Naffziger and Stern[2] at the annual meeting of the American Surgical Association (1953) reported two cases of brain abscess associated with *pulmonary angiomatous malformations,* and hence the lesion under consideration is of great interest also to all thoracic surgeons. These writers stated that the arteriovenous by-pass in the lung may fail to filter infected emboli arising in other parts of the body, or such infected emboli may arise in the pulmonary lesion itself. An accompanying polycythemia may give rise to thromboses anywhere in the body from which emboli pass to the brain. Emboli may also lodge in cerebral softenings which result from primary brain thromboses. Most writers on this subject feel that bacterial infected masses do not lodge primarily in the brain as emboli in these cases, but that lowered oxygenation of the cerebral blood may predispose to abscess formation and thereby give rise to abscesses from bacteria which are constantly cir-

*Read at a meeting of the Chicago Surgical Society held at the Medical College of Virginia, Richmond, April 6, 1954.

culating in everyone's blood stream.

Berthrong and Sabistion[3] reported (1951) on a study of 153 autopsied cases of congenitial cardiac malformations with cyanosis in patients over one month of age seen at the Johns Hopkins Hospital. This analysis revealed 38 cases with significant intracranial lesions (25%). There were sixteen cases of fresh cerebral infarction and fourteen cases with foci of old encephalomalacia. Ten patients with intracerebral hemorrhage, gross or microscopic, were seen. *Four cases with brain abscess were encountered (2.9%).* Consideration of the pathogenesis of the cerebral infarcts in these cases included the possibility of paradoxical embolization of the brain from venous thrombi through cardiac defects, cerebral embolization from cardiac thrombi, and *in situ* thrombosis. Cerebral necrosis as the result of serious local anoxia alone was considered an infrequent factor since many lesions were quite large and some showed specific vascular distribution. An occasional microscopic lesion could well be explained on this basis. Thromboses and infarctions were found in other organs. In the thirty-eight cases with cerebral lesions of all types, already mentioned, there were nine cases with thromboses or infarcts in systemic vessels or viscera, while, of the 115 cases without cerebral lesions, only 9 instances of such visceral lesions were found. They cited also the well-known tendency to thrombus formation in patients with severe polycythemia, often seen in congenital heart disease, including the patient reported in this paper.

Naffziger and Stern[2] reported two cases in each of which the acute and potentially lethal abscess produced the urgent clinical problem. Altogether, there are now four such cases recorded, i.e., brain abscess from pulmonary angiomatous malformations. The first of their two patients had no symptoms whatever of pulmonary disease and, with the exception of the chest roentgenogram which demonstrated the arteriovenous communication, there were no physical or laboratory findings suggestive of such a lesion. The second patient presented a life-long history of cyanosis and clubbing of the fingers and revealed polycythemia, decreased blood oxygen saturation and superficial cutaneous hemangiomas, in addition to the radiological demonstration of the pulmonary lesion. Each of their two patients was treated successfully for brain abscess, the pulmonary lesions not having been resected. They also stated that brain abscess occasionally comes from pulmonary infection of more common origin, such as empyema and lung abscess. All neuro-surgeons are familiar with such lesions. Dr. Frank Glenn, in discussing the paper of Naffziger and Stern, added two cases from his own service of angiomatous lesions of the lung with resultant brain abscess. Thus it is well, when an arteriovenous lesion is found in the lung, to consider resection of that lesion for the added reason that, if it is not done, a brain abscess may very readily develop. Naffziger stated, in discussing the paper, that the precentage of brain abscesses from chest lesions appears to be increasing as the ear and sinus infections, so frequently the cause of brain abscess in the past, are now so reduced in numbers by the antibiotics as to be an almost negligible cause of brain abscess.

CASE REPORT

White male, aged 22, with previous operation for congenital heart disease. Severe headache developed after bumping his head on a door. Subarachnoid hemorrhage suspected. Choked disc and stupor supervened. Ventriculography showed a left temporal lobe lesion. Brain abscess drained with subsequent complete recovery.

Fig. 1.—Photograph of the patient's hands at the time of the operation. Notice the distinct clubbing of all the fingers and both thumbs.

Daniel K, aged 22, was admitted to the Medical College of Virginia Hospital on August 19th, 1953, and discharged improved on September 11th, 1953. His chief complaint on admission (the history being supplied by the family as the patient was rather drowsy) was that he had severe headache for ten to twelve days before admission, associated with nausea. The headache was most severe in the frontal region.

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His temperature had been elevated to 102.4° (mouth) for several days before admission. The patient was quite confused and slow in his responses. Three weeks before admission he had struck his head on the side of a door, not having been rendered unconscious, but his headache began several days later; in retrospect, he probably bumped his head due to a right homonymous hemianopsia caused by a brain abscess. His past history was that he had been a "blue baby" with clubbed fingers (Fig. 1) up to five years previously, at which time he had undergone the Blalock-Taussig procedure for relief of a congenital heart lesion after which he had shown marked improvement generally. He had grown quite tall, approximately six feet four inches in height at the time of admission. Brain abscess was considered before operation as with the history (as noted above), the finding of marked tenderness of the scalp in the left fronto-temporal region, nuchal rigidity, considerable fever, with headache and vomiting, blurring of the optic discs and a definite right homonymous hemianopsia, first demonstrated in the ward by one of the assistant resident neuro-surgeons, Dr. James Lyerly, Jr., and a right lower facial weakness with slight weakness also of the right hand and arm, and stupor, a brain abscess seemed possible in the left cerebral hemisphere.

Laboratory Work: The urinalysis was normal except for a trace of albumin. The blood count at the time of admission showed 21 grams of hemoglobin, 7,530,000 red blood cells (indicating a definite polycythemia so often seen in congenital heart disease) 14,000 white cells, 79% polys, 14% lymphs and 7% monocytes. The fasting blood sugar was 100 mgs.% and the blood urea 18 mgs.%. The flocculation test of the blood was negative. Skull x-ray films on August 20th, 1953, disclosed no bony pathological change or intracranial calcification of abnormal significance. The sella turcica was within normal limits. The chest film showed enlargement of the heart with a cardiothoracic ratio of 59%. There was bilateral congestion with some edema of the lungs and also pulmonary fibrosis. There was pleural thickening at the left apex.

After a forty-eight hour period of crystacillin and streptomycin therapy, a ventriculogram was carried out. The posterior horn of the left lateral ventricle could not be encountered with the brain cannula. The right posterior horn was tapped and approximately 12 cc. of slightly blood-tinged fluid removed and replaced by filtered air. The ventricular fluid did not seem to be under any definite pressure. Skull films in various positions showed a definite displacement of the ventricular system (Fig. 2) to the

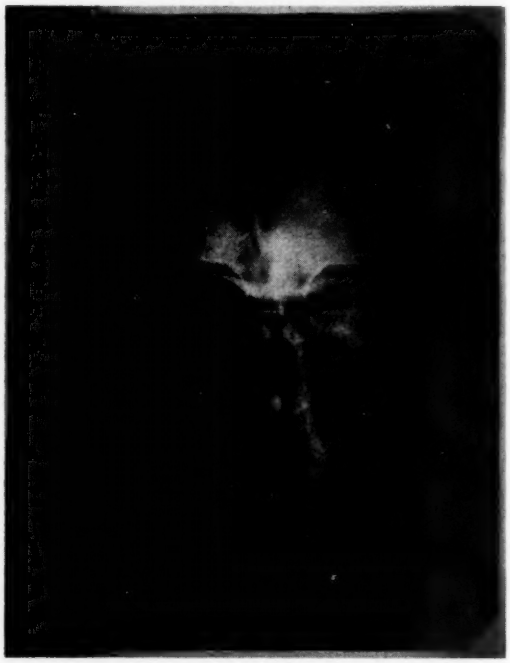

Fig. 2.—Ventriculogram made just before drainage of the abscess. Note the definite deviation of the ventricular system to the right side, including deflection of the third ventricle, caused by a left-sided temporal lobe abscess.

right from the left side, the third ventricle being crescent-shaped with the convexity to the right. There was definite failure of filling of the left temporal horn seen on the lateral views. A horse-shoe shaped skin flap was then outlined in front of and above the left ear, but a linear incision was made first in the center of the outlined skin flap about eight cms. above the left external auditory meatus. The dura was opened and a brain cannula introduced into an abscess cavity five centimeters from the surface of the left posterior temporal lobe (Fig. 3). Creamy, very foul-smelling pus exuded from the brain cannula and with the aid of gentle aspiration a total of 60 cc. of pus were removed and sent to the laboratory for studies. A number 16 soft French rubber catheter was inserted into the abscess cavity and approximately 50,000 units of penicillin, in a total of 5 cc. of saline solution, were slowly instilled into the abscess cavity. The catheter was secured to the scalp

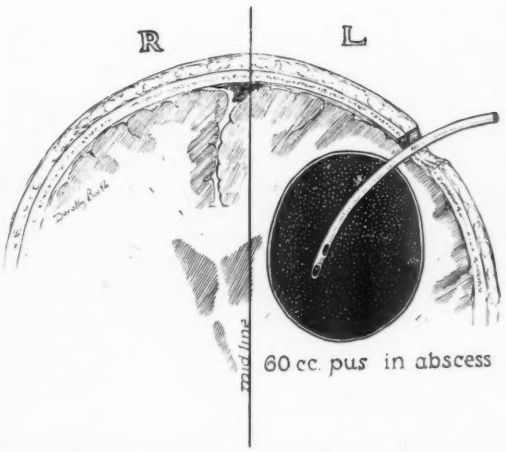

Fig. 3.—Artist's drawing of the brain abscess in the left temporal lobe. Note the single French catheter in the lumen of the abscess. This is left in place and occasionally shortened for approximately six weeks. About 60 cc. of pus were obtained from the abscess which contained, on culture, non-hemolytic anaerobic streptococci (see text).

and left in position for several weeks, being gradually shortened.

The pus was cultured and yielded a pure culture of non-hemolytic anaerobic streptococci as the pathogenic organism.

He made a very uneventful convalescence, the gross hemianopsia (right homonymous) improved greatly in the subsequent weeks and the patient, when examined approximately three months after operation (November 19th, 1953), was in very good condition. Visual fields made on November 19th (Fig. 5) showed marked improvement over those made on September 18th (Fig. 4) the latter fields being made

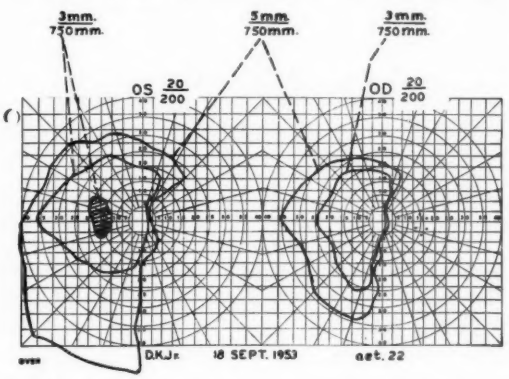

Fig. 4.—Visual fields made approximately one month after drainage of the abscess. At the time of operation, although the patient was drowsy, a definite right homonymous hemianopsia could be demonstrated by gross confrontation test. Note the definite right homonymous hemianopsia still persisting one month after drainage of the abscess.

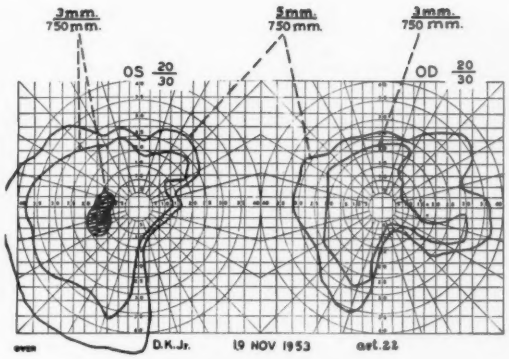

Fig. 5.—Visual fields made approximately three months after drainage of the abscess, two months after the fields shown in Fig. 4. Note the decided filling out of the right temporal and left nasal visual fields denoting marked improvement in peripheral vision. Note also the marked improvement in the *visual acuity* in these fields compared to those made two months previously (see Fig. 4).

approximately one month after operation. The right temporal and left nasal visual fields were filling out very satisfactorily within three months of the drainage of the abscess, the patient had little or no headache when seen three months after operation and was driving his car. He has continued to improve and is now symptom-free with excellent vision in each eye at the time of this report.

SUMMARY

A case is reported of a brain abscess in the left temporal lobe in a twenty-two year old white male patient, which developed incident to congenital heart disease. The latter lesion had been operated upon five years before the brain abscess was drained. The literature is reviewed, similar cases are cited, and a brief discussion is made of the known pathogenesis of these lesions. The symptomatology is described that should lead to correct diagnosis before operation in the great majority of cases.

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CAT-SCRATCH DISEASE— A REGIONAL LYMPHADENITIS OF NON-BACTERIAL ETIOLOGY*

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Because many authors have stressed the importance of cat-scratch disease in differential diagnosis, and especially in gland biopsy, the two cases recently diagnosed in Riverside Hospital[1] should be reported.

This condition as a clinical entity was first described in the literature by Dr. Debre[2], in 1950, though Dr. Fooshay, in 1932, while studying tularemia had recognized the disease and had prepared an antigen from suppurating glands. It was with this antigen that Dr. Debre tested his first case. He and his associates found it to be specific. Recently cases of Parinaud's[3] oculoglandular syndrome, which was first described in 1889, reacted positively to this antigen. This would indicate that this disease is not a new one but one that has gone unrecognized for many years.

Doctors Greer and Keefer[4], in 1951, were the first to report a case in the United States. Their statement that "a cat contact is invariable" is now thought to be wrong, for many have reported the disease following splinter and briar scratches, wounds from metal fragments, insect bites, scratches from rabbits, and injury by a porcupine quill. Parinaud's cases were in contact with slaughter-house animals.

All attempts to isolate the causative agent by culture, special staining, and the study of sections of glands were unsuccessful until Dr. Mollaret[5], in 1951, reproduced the disease in men and in a monkey. He described the morphology of the virus and the microscopic appearance of the nodes, dividing them into three stages.

Doctors Daniels and MacMurray[6], in 1952, reviewed sixty cases of cat-scratch disease. They reported that the nodes of the head and neck were frequently involved. Occasionally glands were enlarged in unusual areas, such as the edge of the trapezius and pectoral muscles, and at the sternoclavicular articulation. They described the initial lesions as being varied, occurring as an inflamed scratch, a raised purple or dusky red scar, red papules, a small ulcer (frequently scabbed or crusted), purple fang or puncture wounds, and a simple papule surmounted by a vesicle. Others have described a skin rash which varied from scarlatinal through macules to vesiculation. Erythema nodosum has been reported as well.

A recent, very comprehensive report and review was made by Dr. Rosenblum[7] from Tennessee. He pointed out that reoccurrence of signs of inflammation in the primary lesion with regional adenopathy should suggest the diagnosis of cat-scratch disease. He also noted the fact that this disease is apparently universal. Since 1952, many case reports of the disease have come from all parts of the United States; also from Australia, Belgium, Canada, England, Germany, Hawaii, India, and Italy.

Briefly, then, this entity has been reported under the following titles: Cat-scratch fever, cat-scratch disease, non-bacterial regional lymphadenitis, acute benign infectious lymphorecticulosis, Parinaud's oculoglandular syndrome, virus scratch lymphadenitis, and probably others. The condition is believed to be due to a virus that can be identified by special staining and diagnosed with an intradermal test when using an appropriate antigen; also by a complement fixation reaction, when humoral antibodies are present. The latter test is the most unsatisfactory. The biopsy specimen is suggestive if not always pathognomic.

The disease develops after a superficial, usually trivial injury; it is frequently, but not always, caused by cat scratches. In seven to forty-two days and following a short, mild illness regional adenopathy develops. Suppuration may or may not occur. Leukocytosis and higher fever curves precede this event. The disease may last from two weeks to seven months. One death has been reported following central nervous system involvement, but the course is usually benign. No specific treatment has been found.

*Presented at the Regional Meeting of the American College of Physicians, Richmond, Virginia, February 25, 1954.

CASE REPORTS

The first case, a white female, age 43, was seen in the office, November 27, 1953. The patient complained of a variable fever, night sweats, and lumps in her left thigh and groin. The symptoms had been present for three weeks or more. She also had had generalized abdominal pains, anorexia and malaise for two months. She had been treated for severe hypertension for six years and had been on a rice diet for a year. In January, 1953, she had a cervical cauterization and perineorrhaphy. February, 1953, an appendectomy, right salpingo-oophorectomy and suspension was done. An upper G. I. series was reported as negative just before she was referred. She was also reported to be a diabetic; the fasting blood sugar was 150 milligrams per cent, but the glucose tolerance was not diagnostic.

The examination revealed a thin, acutely ill, apprehensive woman, appearing older than her stated age. The oral temperature was 100.2 degree F. She had lost fourteen pounds in the past three months. The vision was poor and the eye grounds showed tortuosity and notching, without hemorrhage or exudate. The heart was enlarged and there was a systolic blow at the apex. The blood pressure was 220/118. There was moderate tenderness in the right lower quadrant. The inguinal glands on the left were enlarged, irregular, not tender, and their mass measured 3 x 6 centimeters. There were numerous superficial scratches over her lower extremities; none appeared to be grossly infected. A urinalysis was normal.

Hospitalization was advised with the tentative diagnosis of questionable thrombo-phlebitis and lymphadenitis. At this point the patient made the remark, "What will happen to my cats?" For the first time the scratches on her legs became significant. Until she stated these were made by her cats, it had been surmised that they had been caused by briars or finger nails.

The patient was hospitalized on November 27, 1953. The oral temperature continued around 100 degrees F. The initial blood studies showed 10.6 grams of hemoglobin with 17,850 w.b.c.. The polys were 72%, the lymphs 28%. The urinalysis was normal, blood serology and all agglutinations were negative. The next day the white blood count was 19,800. The polys were 80%, the lymphs 19%, and the monos 1%.

A surgical consultant was called on November 29, 1953. He did not think a thrombo-phlebitis present but ordered 800,000 units of penicillin. This was discontinued and local heat to the groin continued.

On one of the cat scratches on the left leg there was a rounded, dark red, crusted lesion one centimeter in diameter. This had not been noted before, but the patient stated she had noted it for over a month.

Cat-scratch antigen could not be obtained locally.

Two weeks after admission the glands in the left inguinal region were fluctuant; at this time the fever gradually subsided and became normal. The blood count showed 14 grams of hemoglobin, with 12,250 white blood cells. The polys were 72%, the lymphs 20%, the monos 7%, the eosins 1%. All agglutinations were again reported as negative.

On December 14, 1953, 8 cubic centimeters of thick grayish-yellow pus were aspirated from the mass in the left inguinal region. This was cultured aerobically, anaerobically, and for fungus growth at room temperature and 37 degrees C. Some was planted on Petragnani. No growth resulted and no organisms were seen on direct smear.

An antigen was prepared from this pus by diluting it one to five with normal saline. It was heated to 56 degrees C. for one hour on two successive days. After proving this antigen sterile, .1 cubic centimeter was injected intradermally on December 21, 1953. Forty-eight hours later the test was positive. A control (one of the authors injected himself) was negative.

On December 28, 1953, the mass was again swollen and fluctuant, when 6 cubic centimeters of pus were aspirated. A week later 5 cubic centimeters were aspirated. Since then the glands have remained flat and no sinus tract has developed. There are no symptoms referrable to this disease, and except for a dark red discoloration, the inguinal region is normal.

Case two, O. H., a white female, age 30, was referred to the office January 11, 1954. The patient complained of a swelling in her right groin that was painful on walking. This was first noted December 31, 1953 (11 days). About the same time she noted an afternoon fever, generalized abdominal pains and aching in her legs. She had also noted a small papule on her right lower leg about one month before the onset of the above symptoms.

The past history was not significant except that she had a pet cat that occasionally scratched her. She did not recall any significant infections from

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these scratches. This cat had died of a sterilization operation before she was seen. The veterinarian was called and he stated that the cat was apparently well before the operation.

The examination revealed a well-developed, healthy-appearing woman in no apparent distress. The oral temperature was 99.8 degrees F. Nothing abnormal was noted except for enlargement of the right inguinal glands. These measured 5 x 6 centimeters; they were irregular, firm, and moderately tender. There were several small, discrete glands, palpable just above the large mass. There was a dark red papule, 6 millimeters in diameter, on the right lower leg. There were no scratches.

Hospitalization was advised. The admission blood count showed 14.4 grams of hemoglobin with a 9,400 white count. The blood smear was normal, the polys 62%, the lymphs 35%, the monos 2%, and eosins 1%. The urinalysis was normal, blood serology negative, and all agglutinations negative. The next day the patient complained of headache, leg pains, and nausea. Enlargement of the right cervical glands was noted, but there was no stiffness of the neck or Kernig.

On this day, January 12, 1954, .1 cubic centimeter of antigen, prepared from the first case (O.M.) was injected intradermally. A control (patient with tuberculosis) was also injected. Forty-eight hours later the test was positive. The control showed no reaction whatsoever.

The oral temperature fluctuated between 99.8 and 101 degrees F. for one week; it became normal January 15, 1954. The blood count was normal and repeat agglutinations negative. A tuberculin test was negative.

As in the first patient, only symptomatic treatment and local heat were used. She left the hospital January 17, 1954, feeling well; however, the right inguinal glands were still enlarged, 3 x 4 centimeters, but not tender.

Five days later, January 22, 1954, the patient returned to the office complaining that the glands were sore, seemed larger, and that walking caused pain. The glands were no larger and not fluctuant, but were tender. Her oral temperature was 99.6 degrees F. At this time she was started on Erythromycin, 200 milligrams, every six hours for twelve doses. Her symptoms and fever promptly subsided in two days. Since then she has remained well, and, although the glands are still slightly enlarged, they are not tender. She has refused to have them removed or biopsied.

Because veterinarians apparently do not recognize this disease in animals, we had hoped to have completed some intradermal tests on local cats and dogs before making this presentation. Three veterinarians were questioned; only one stated that he had noted a regional adenopathy with suppuration in dogs that had been bitten or scratched by cats. The infection was usually benign, healing uneventfully on incision and drainage.**

In the differential diagnosis of this disease one should include tularemia, bacterial lymph-adenitis, lymphogranuloma, venereum. tuberculosis, Hodgkin's rat-bite fever, infectious mononucleosis, leukemia, Brucella, carcinoma, sarcoma, fungus infections, and thrombophlebitis.

SUMMARY

Two cases of cat-scratch disease, or non-bacterial regional lymphadenitis, have been described. Both reacted positively to antigen prepared from suppurating glands of the first case. Controls showed a negative reaction to this antigen. The second case did not progress to suppuration. The use of Erythromycin may have influenced this. The symptoms and clinical course of these patients paralleled those of cases previously reported. The diagnosis in the first case was obscured by multiple surgery and the coexistence of a serious disease. Obviously the second case was not too difficult a diagnostic problem.

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**Since this paper was presented, Dr. R. J. Foley, a local veterinarian, has tested thirty cats with the antigen which was prepared from case one. He found no positive reactors. Dr. Foley stated that the best location for the intradermal test was in the inner surface of the pinna of the cat's ear.

REHABILITATION OF THE DIABETIC PATIENT*

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Webster's Dictionary defines rehabilitate as follows: "to restore a person to a status of independent earning power through a course of instruction under state supervision, especially along vocational lines." The rehabilitation of a diabetic person, therefore, implies that diabetes disables a person. To a limited extent only is this true. Diabetes is an acute as well as a chronic disease. It can make a person intensely sick in a period of days and thus disable him. It can do the same over a period of years. This is true of the uncontrolled disease. Control of the disease can be attained within days. The acute disability then promptly ceases. Control can be maintained adequately throughout life. Thus chronic disability does not develop. The foregoing statements hold true for the vast majority of diabetics. They may be true for all diabetics even with our present weapons of treatment. They have not always been true in the past. Many of us have felt that control of the disease sufficient to produce apparent health and a sense of well being was adequate. The relatively large numbers of child diabetics now dying at about the age of thirty after twenty years of diabetes disproves this. Last month two of my more recent patients died at the ages of twenty-nine and thirty-one years. Each was blind with retinitis. Each was twitching and having uremic convulsions. Each had been disabled for months before death. Their treatment had been obviously inadequate. In contrast at the same time, I had in the hospital a man forty years old who has worked daily. He has had diabetes since he was two and one-half years old—six years of starvation diet before insulin was discovered. His treatment has been more effective. Yet the presence of retinitis, absent tendon jerks and decreased vibratory sensation indicates that his treatment should be improved. We need to be more diligent in emphasizing the value of really adequate treatment to protect the future of the diabetic person and less prone to consider only the immediate health and convenience of the patient. The strict adherence to a liberal diet such as now prescribed and the taking of two or even three injections of insulin a day is not too great a burden if the alternative means blindness, convulsions and death at the age of thirty years. These things relate to the scientific phase of disability from diabetes.

Another phase has to do with the attitude of the physician and the patient and family. Some people have a pessimistic attitude about the disease and some a fatalistic one. More than one diabetic has been handled as if he were not able to work. I have known children to be taken out of school permanently and men not allowed to continue their work. This disability is psychic and not physical, artificial, and wrong and difficult of correction if long continued. The State of Virginia acknowledges disability of diabetic origin and pays public money to people with diabetes who acknowledge no disability. The federal government has done the same. One patient of mine, a robust young man, handled a large bulldozer for over twelve hours daily and complained because the government reduced his disability to a 50% status. At least two others drew payments for going to college, and in these cases there was no disability or financial need, the families being well to do. One recent case has become a real problem. He has been maintained financially by the state. Now the state has found him a job in an oyster house and withdrawn financial support. The boy and his mother are outraged. She has talked so much about the difficult job obtained for this poor disabled young man that she is now convinced that it is too hard even for her, and she has quit work there, leaving two persons and not one in need of assistance. One can hardly doubt that the cause of the disability is the state's original attitude that diabetes *per se* disables a person.

There is no dissent about disability being produced by other diseases or complications involving a diabetic. One of my diabetic patients was given medical retirement by the city. I am sure the disability was due to stupidity and not diabetes. Blindness from retinitis is certainly considerably disabling, but blindness from cataract is nearly always amenable to treatment and should be handled differently, although that is not always the case. One patient has managed to secure state aid on a permanent disa-

*Presented as a part of symposium on rehabilitation at annual meeting of The Medical Society of Virginia, Roanoke, October, 1953.

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bility basis for such blindness.

Last June I attended a panel discussion at the meeting of the American Diabetes Association. It was one of the most interesting I have ever heard. All panel members were doctors who are members of the association. All had diabetes.

The Chairman had had diabetes only four years. The five other members had had diabetes for a total of over one hundred and twenty-five years, an average of twenty-seven years of diabetes per person.

One was impressed by the apparent good health of all and by their attitude. All seemed to resent the sympathy at times extended to them. Resentment against the idea that they were sick or even suffering from a *disease* was obvious. They recounted experiences among their own patients in line with this. They stated that they had a "condition", not a "disease", that required them to follow certain rules not applicable to all people, but that they did not feel like diseased or unhealthy people. Apparently they had not been disabled by diabetes. One was the president of the association and nearly all were outstanding physicians of the United States.

Such an attitude is a healthful one for us to assume. We can bring the condition under control and immediately overcome the acute disability. We believe we can keep the condition controlled permanently and thus prevent permanent disability. Discounting the complications of diabetes, I have never seen diabetes *per se* produce permanent disability requiring rehabilitation. What we need is good medical care and not rehabilitation for the diabetic in the vast majority of cases. Rarely we need to rehabilitate the patient's, relative's, or even the doctor's attitude toward diabetes and what it means. If these things are done, disability from diabetes as considered in this symposium will not occur.

1631 Monument Avenue.

Migraine Headaches.

Persons whose parents both suffered from migraine may have about a 70 per cent chance of getting the headaches too.

Physicians, as far back as 1873, have theorized that this kind of headache runs in families. Three New York researchers now have made a study which they said supports the theory that the malady is inherited. If both parents have headaches, the trait may show up in about 70 per cent of their children. If only one parent suffers headaches, the percentage drops to about 17.

The study was described by Helen Goodell, B.S.; Richard Lewontin, Ph.D., and Harold G. Wolff, M.D., of Columbia and Cornell Universities, in the September Archives of Neurology and Psychiatry, published by the American Medical Association.

They studied the "family pedigree"—information about relatives—of 119 persons having migraine, and found 343 persons who suffered headaches. Twenty of the patients had no relatives with migraine; 66 had one to three; 22 had from 4 to 7, and 11 patients had from 8 to 19 relatives with migraine. In families where migraine occurred, there were 832 children. Among 265 of them having neither parent with migraine, 76, or 28.6 per cent, had headaches; of 502 having one parent with migraine, 222, or 44.2 per cent, had migraine; and of the 65 persons both of whose parents were affected, 45, or 69.2 per cent, had migraine headaches.

Incidence of migraine in the general population has been estimated at between five and 22 per cent. However, "complaint of pain in the head from a variety of causes can be elicited from about 85 per cent of the population." Migraine headache follows a general pattern, usually beginning with pain on only one side of the head which may become general later. Attacks may last from less than an hour to several days, and are associated with loss of appetite, nausea, vomiting, seeing difficulty and mood changes, and sometimes with paleness, sweating, chills and dizziness.

The New York researchers commented that they assume migraine is inherited, but that the trait might show up in one environment and not another. Just hearing both parents mention attacks of migraine could influence migraine in a child.

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FACILITATING MEDICAL SERVICE

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Farmville, Virginia

I am going to be brief, to the point, and I hope stimulate a sufficient number of controversial issues and questions in your minds as to make the discussion that follows this meeting interesting, worthwhile, and beneficial to rural health and medical care.

My topic is the facilitating of medical service. For the purpose of this talk I am going to define medical service as the care we require from the physician when we are sick. Several steps are involved in this problem of medical care. First of all is the recognition on the part of the patient or his family that illness exists, and that the illness is of sufficient severity to require the services of a physician. The second part of the problem is that of getting the message to the physician. The third part consists of getting the patient and doctor together for the purpose of treatment. Hand in hand with these factors is the type of illness involved. Illness may be acute and strike "like a bolt from the blue", or it may be chronic and lingering. Lastly, illness may be an emergency.

Now, why is medical service a problem? What are the sources of irritation and dissatisfaction that make a topic such as this necessary for discussion? To begin with, we have the advent of younger physicians to rural areas in response to the need of those areas for better distribution of physicians. Very often the younger physician has not been brought up in a rural community, and brings with him an ignorance of rural people, their ways, their mode of living, as well as an ignorance of the geography of the locality in which he has settled. He's brand new to everything. With it all he brings a desire to do good work, to serve the community well, and to earn a good living. He hopes to do a modern type of practice with diagnostic facilities that are reasonably adequate. He also has a desire for some time to himself for health, study, and recreation.

Another factor in the problem of medical care is the so-called disappearance of the "old family doctor". Actually the old family doctor hasn't disappeared, for the younger physician is just as dedicated to the service of his community as the old family doctor ever was. But what has tended to disappear is the emotional bond between physician and patient. And this disappearance of emotional attachment has come about largely because of the advances in specific therapy for diseases. I refer to the antibiotics such as penicillin, aureomycin, etc. For example: Before the war there was little in the way of specific therapy that could be done for the patient with pneumonia, and it was not unusual for the physician to "sit with" the patient, especially between the ninth and eleventh days. During this time he did little except supervise nursing care and keep visitors away. His presence *was* needed during the critical period or the crisis when the temperature dropped suddenly. However, he brought an immeasurable amount of comfort and reassurance to both family and patient by his presence alone. As long as he was there, the patient felt that things were bound to be all right. By contrast, in the present treatment of pneumonia, it almost makes little difference who makes the diagnosis or who sits with the patient. A few injections of penicillin and the patient is well. All that is left to the patient is the sting of the penicillin needle. No emotional bond has been built up; little to no knowledge of patient and physician as personalities has been exchanged. And what's the result? When the patient again calls the physician because of illness, each of them is pretty much a stranger all over again.

An additional factor in the problem of adequate medical care is the fact that with better transportation and road facilities rural people themselves "shop around" for the commodity the physician sells—namely medical service. And—being human—the physician's feelings are often hurt at being by passed for the town or city physician in the treatment of something he feels he could very easily have handled himself.

Then there are certain fixed habits of rural people I find it almost impossible to change. One of them is their attempts at self-medication with home remedies or left over medicines borrowed from their neighbors. The illnesses may or may not be similar, and they persist in the medication for a period long past the time they should have called a physician. Another fixed habit is the matter of office

*Read at Institute of Rural Affairs, V.P.I., Blacksburg, Va., July 28, 1954.

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hours. Office hours mean little. It's not unusual for a physician to have little or nothing to do during his afternoon office hours, go out and make a call just before supper, and come back to find the cars lined up in front of his home with patients who should have been there hours before. If the physician is not in his office they go to his home, or his church, or to his place of recreation and there expect immediate attention. They tend to disregard his time off.

The solution, of course, lies in the education of both physician and patient in the responsibilities of each towards the other. I have a few rules of thumb which I have found helpful in instructing the patient, and which my patients now follow fairly well.

The first rule is that if you have a fever in the morning, rest assured that you'll have a much higher fever by that afternoon or that night. The same applies to children—only more so. You will need the services of a physician. A fever accompanied by a definite chill and not just chilliness always will need a physician. Pain in the abdomen that lasts for any length of time needs a physician. A second rule is that in talking to the physician or his secretary let him know the temperature, the length of time the patient has been sick, and what seems to be the patient's complaints. Don't just say, "Make a call. . . ." In our own community the Red Cross Home Nursing Course has been a great help in the reports made to the doctors by the mothers. The mothers have learned a great deal of what to look for and what to tell the doctors in transmitting a message for a house call. And all of this helps the doctor evaluate the situation. A third rule I teach is that the acutely ill patient may safely be moved to the doctor's office without altering unfavorably the course of his illness. The patient is not going to be any worse for going to the office. This is so because of the newer drugs. Lastly, I try to explain and define an emergency. An emergency is an unexpected and an unforeseen combination of circumstances which immediately threatens the patient's life, and for which treatment to save life has to be rendered as soon as possible. But the decision that an emergency exists rests with the doctor, not with the patient's family or with the desires of the family simply to have a doctor.

Now that we have come as far as recognizing that a patient is ill and needs a doctor, that the message has been adequately transmitted to the physician, how can we facilitate the physician's call to the farm? Firstly, the patient's name should be given correctly. I have found to my sorrow, on a rainy night, that Willie Gray and William Gray lived five miles apart in opposite directions. Another one of my experiences was to find out too late that George Gates and George Yates lived thirteen miles apart. So the names are important. Then the directions should be exact. It's astonishing to find out how few people know how to give exact directions to their homes, and how few know the numbers of the roads on which they live. A further help in accurate directions is to have the mail box with the name on it on both sides of the mail box—and easily legible. Another thing to remember is that landmarks easily visible in the daytime are not all visible at night by automobile headlights, so that the remark "You can see the house from the road, Doc" simply is not true. (A famous last word to my secretary is, "He just can't miss it". I do, almost regularly). Lastly, have the approach road—the road leading to the house from the main road—in as good condition as possible. One of the most hazardous parts of making a call in bad weather is usually the first six feet of junction of the hard surface with the dirt road. The area is usually a hole and after a good rain is nothing but mud. A few good sized rocks at well chosen points would prevent getting stuck. But the rocks just aren't there.

Now I feel that all I have said is only common sense. But the reason that the subject has to be stressed is that common sense is not a common attribute. We all don't have it at times, and we lack it singularly when it concerns illness. My statements concerning medical care are based not only on personal experiences, but on the complaints that have come back from young doctors newly placed in rural areas. So it is in the hope of facilitating better relationship in obtaining the services of physicians when we are sick that I speak today. And, of course, I'd like to prolong the doctor's life a little, too.

So, in closing, I would like to have the following points stressed to rural people in need of a doctor's services: (1) Make up your mind early as to whether someone ill in your family is going to need a physician. ((2) Know your doctor's office hours

and time off. (3) Give as accurate a description as possible of the illness. (4) Follow the doctor's advice as to whether the patient should be brought to the doctor's office. (5) Give accurate and explicit road directions. (6) Have the approach road in reasonably passable condition. I'm sure that if these suggestions are followed that a good deal of the irritation and ill-feeling that we read and hear about nowadays concerning medical care would be abolished. The whole problem involves continued sympathetic understanding and cooperation between the physicians and the public.

140-A Main Street.

Care for Uninsurables.

The responsibility for financing the cost of illness for low-income and uninsurable persons is a local and state concern. Dr. Walter B. Martin, Norfolk, Va., president of the American Medical Association, said recently.

In the August 28 Journal of the A.M.A., Dr. Martin said health care costs for the non-insurable must be met by local and state aid and philanthropic funds. To lower the amount of aid needed, he proposed two methods: further expansion of sound voluntary insurance plans, and more chronically ill and convalescent hospitals to provide for these persons at lower per diem cost. The problem must be met at this level since there can be "no acceptable or realistic standard for federal aid." Federal government participation would be "difficult to carry out without a degree of federal supervision and control that would be highly objectionable. . . . The medical needs of a person will vary with the duration and severity of his illness or disability and his immediate necessity could not be measured by any national yardstick."

Dr. Martin said pressure would be exerted to lengthen this yardstick until each year more persons would claim government assistance. Opposition to federal aid "in no way solves the problem of providing for the health care of the uninsurable nor lessens the responsibility for working out a realistic and effective means of financing the necessary care for these persons."

This uninsurable group now includes many of the 13,500,000 persons over 65, the subsistence-income groups, many chronically ill, and the more than 5,000,000 recipients of direct governmental assistance. The number of persons in these categories could be reduced to some extent from the present total of 30 to 35 million by insurance coverage for those able to buy it but not able to pay for an illness when it occurs, he said. The responsibility for those who remain uninsurable rests at the local level.

"Only at the local level can the medical needs of individuals be determined. Only at the local level can their economic status be assessed in relation to their medical requirements at a particular time."

Dr. Martin called for a "joining of forces" between state medical societies and hospitals in promoting sound voluntary insurance plans and providing "the means of financing the care of the uninsurable . . . at the state and local level."

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MESENTERIC CYSTS*

E. M. CHITWOOD, JR., M.D.,
GEORGE W. KELLY, JR., M.D.,
and
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This entity was first recorded by Benevieni of Florence in 1507.[1] Loeb estimated that some 550 to 600 cases had been reported by 1942[2]. The true rarity of this lesion can be seen when the figures of Judd and Crisp are examined, as they noted an incidence of less than one per 100,000 admissions at the Mayo Clinic.[3]

The present case is being reported because of its rarity and in order to illustrate the difficulty of recognizing the causes of acute pain in the abdomen.

CASE REPORT

A nine year old white female was referred to this hospital with a diagnosis of acute appendicitis. The child had been in the usual state of good health until some twenty hours prior to admission, at which time there was a sudden onset of low abdominal pain which had persisted. There was a normal bowel movement the day prior to admission. There was nausea and vomiting but no urinary symptoms.

Past medical history and review of symptoms were not remarkable. Physical examination revealed a healthy young white female in acute distress. Her temperature was 100.4, rectally; respiration 18, and the pulse 90. The tonsils were enlarged but not infected. There was tenderness in the right para-umbilical region without spasm. A rectal examination elicited tenderness high on the right. Admission urinalysis was not remarkable and the red count was 4.4; hemoglobin 96%, and the white count was 10,000 with 81% neutrophiles and 19 small lymphs. A diagnosis of acute appendicitis was made and operation advised.

*Surgical Service, Pulaski Hospital, Inc.

A grossly normal appendix was removed and exploration revealed a large, grayish-white cystic mass in the pelvis. This measured approximately 15 cms. in greatest diameter and was thought to be a lipoma. It was delivered into the wound with some difficulty, and it was then obvious that it arose from the mesentery of the jejunum about three feet below the ligament of Trietz. The mass was dissected free by blunt and sharp dissection and it was noted that the blood supply of the bowel in this area was impaired. A resection of the small bowel was done with a side to side anastomosis. Several smaller lipomas were noted in the mesentery to the sigmoid but were not removed as the patient was doing poorly on the table.

Post-operatively, she was treated with Wangensteen suction, intravenous fluids and on this regimen did quite well. The post-operative course was uneventful and she was discharged on her 10th hospital day.

The pathology report was "Congenital mesenteric cyst."

The patient was asymptomatic three months after operation.

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ANNUAL PUBLIC RELATIONS CONFERENCE

The Medical Society of Virginia—November 18, 1954—2:00 P.M.

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CLINICOPATHOLOGICAL CONFERENCES
of
The Medical College of Virginia Hospital

Prepared and Edited by
GORDON HENNIGAR, M.D.*
WM. R. KAY, M.D.**

CASE #101

A 46 year old colored male was admitted to St. Philip Hospital on June 29. He had apparently been well until twenty days previously when he suddenly developed pain and swelling of his left great toe. He was seen by his local physician, who found his temperature to be 104°. The toe was x-rayed and the patient was then given large white tablets and over the next few days the pain and fever apparently gradually subsided.

Twelve days before admission the patient began to develop shortness of breath and paroxysmal nocturnal dyspnea. He became unable to lie prone. He denied any swelling, but complained of a tightness and fullness in his chest accompanied by dry hacking cough. He was given digitalis by his local physician and some pills to help his breathing, but he apparently did not improve. He became quite weak and stated that he had lost 8 pounds. He was unaware of fever during the few days before admission, but described continuous drenching sweats day and night.

He had had one previous hospital admission in 1947 because of abdominal pain with diarrhea and fever of short duration. No definite diagnosis was reached, but the impression was that he either had an acute pancreatitis or possibly mesenteric adenitis. The heart was described as normal at that time, and the only recorded blood pressure was 160/90. The liver was found to be enlarged 2 fingers breadth below the costal margin. His symptoms subsided on conservative treatment and he was discharged after a week of hospitalization. He had apparently remained well since that time. Past history was otherwise essentially negative.

Physical Examination: Temperature 98. Pulse 108. Respiration 20. Blood pressure 170/0. Patient was well developed and well nourished, but markedly dyspneic and orthopneic and appeared rather acutely ill. The fundi were negative. There was moderate distention of the neck veins. There were a few fine rales in both lung bases, but the lungs were otherwise clear. The heart was greatly enlarged with a diffuse apical impulse with the left border in the 6th intercostal space at the anterior axillary line. The rhythm was regular. There was a to-and-fro murmur along the left sternal border and at the apex. The abdomen was distended. The liver was enlarged and tender, extending 4 or 5 fingers breadth below the costal margin. There was slight residual swelling around the 1st left metatarsophalangeal joint, but there was no joint tenderness, redness, or local heat. The extremities were otherwise negative.

Laboratory Data: Hemoglobin 12.6 grams, WBC 11,600, 70% polys., 27% lymphs., and 3% monos. Urine examination was not reported. Fluroscopic examination of the chest was reported as showing cardiac enlargement, chiefly left ventricular, with moderate pulmonary congestion and pleural effusion on the right. An x-ray of the left foot showed only some soft tissue swelling around the great toe.

The patient went steadily downhill. The day following admission his temperature rose to 99.8 and the attending physician described the patient as being extremely dyspneic and apprehensive with physical signs of pleural effusion in the right base, and with pale mucous membranes. The patient was continued on digitalis, given oxygen and one 500 cc. whole blood transfusion. He became progressively more dyspneic and died at 5:20 A.M. on the morning of July 1st. An autopsy was obtained.

CLINICAL DISCUSSION BY DR. KINLOCH NELSON*

Here we have a 46 year old colored male, who entered the hospital on June 29th. I presume this was 1952, which is of little significance other than that his previous admission was in 1947 and hence we assume that he had been in good health for five years up to the onset of his present illness, which began twenty days previously with the sudden development of pain and swelling of his left great toe and a recorded temperature of 104. This onset is

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not very helpful diagnostically, but its suddenness suggests some vascular disturbance or embolism, which fits well with his later course. It crossed my mind that this might be a manifestation of gout, which can be dismissed by reason of later developments, particularly the x-ray which was negative for joint involvement, and I also thought of osteomyelitis, which can be omitted from further discussion for the same reason, although, as you know, in its very early stage the x-rays may be negative.

Twelve days before admission the patient began to develop congestive heart failure manifested by dyspnea, orthopnea, and paroxysmal nocturnal dyspnea. This latter symptom has always seemed to be one of the few practically diagnostic symptoms, being always indicative of disease of the coronary arteries, either at their openings in the sinuses of Valsalva as in aortic syphilis, or throughout their course in the heart muscle, as in coronary sclerosis; or this symptom may be a manifestation of bronchial asthma. Some years ago Dr. Swineford at the University of Virginia undertook to show that this symptom was even more closely related to allergic states in that those patients with coronary disease who showed this symptom also had historical or other evidence of allergic states, whereas it was an uncommon finding in patients with similar heart disease without accompanying history of allergic upsets. Whether or not this idea is factual, I do not know. This particular patient may be the exception that proves the rule, because I cannot conclude that there was any real coronary disease per se in this case. There was no edema in the development of this rather acute heart failure, and hence it was chiefly of the left ventricular type, that is the predominant strain was on the left ventricle, which idea is substantiated by later developments. The chest symptoms are compatible with pulmonary congestion and not helpful diagnostically. The absence of response to digitalis, providing that the dosage was adequate, may well have considerable significance; it is very unusual for a patient with any ordinary heart disease, luetic, arteriosclerotic, or rheumatic, not to get some benefit from digitalization, especially in their first break in compensation; thus we may except to find some unusual or active process responsible for the heart failure. The weakness, possible weight loss, and sweats, despite the absence of known temperature elevation, are compatible with infection and since we have no leads as to possible localized infection, we think of sepsis. Although there have been some reports of exhaustion and weakness as symptoms of cardiac failure, such has not been our experience; certainly it would not be customary for a patient with heart failure to *lose* weight, although we have little confidence in the history of weight change. The sweating must mean infection and since time immemorial has been associated in our minds with pulmonary tuberculosis, especially if such sweating occurs at night. As a matter of fact, tuberculosis is usually discovered now so early by other methods that this symptom has little value in the diagnosis of this disease.

The diagnoses of pancreatitis and mesenteric adenitis suggested for the abdominal pain, fever, and diarrhea in 1947 seem to have little foundation. We have never cared for the diagnosis of mesenteric adenitis as we do not see how this can be reached without laparotomy. The normal heart and blood pressure of 160/90 recorded at that time appear to be of great importance in tending to rule out a rheumatic aortic valve lesion possibly suggested by the later course. It would be highly unlikely for a man of this age to have rheumatic aortic valve disease in 1952 and a normal heart in 1947. Also, for what it may be worth in this patient, there was no history of rheumatic fever, chorea, etc. I see no connection between the enlargement of the liver found in 1947 and the fundamental problem here. It may be that this patient was one who had a palpable liver without disease, as we see from time to time. We note the absence of any serological test for syphilis.

The physical examination showed no fever, a somewhat, though not excessively, rapid pulse, and slightly elevated respiratory rate. The blood pressure of 170/0 is a striking finding. We have only rarely seen a truly zero diastolic pressure, as in most cases careful observation will show a change in sound at a very low level, such as 20-30. In any case, such a finding is only possible when there is a leak in the arterial peripheral circulation during diastole, that is outside the heart itself or the lungs. Such an occurrence is commonest in aortic regurgitation, arteriovenous fistula, and rupture of the aorta into the pulmonary artery, the clinical findings of which were so well described by Dr. W. B. Porter some years ago.*

*Porter, William B.: The Syndrome of Rupture of an Aortic Aneurysm into the Pulmonary Artery, Am. Heart J., **23**, No. 4, p. 468-482, April, 1942.

The generally ill and breathless appearance of the patient is compatible with his rapidly developing and progressive congestive failure and not particularly so with a recorded respiratory rate of 20. No petechiae were noted in the fundi. The distended neck veins and basal rales fit the cardiac failure. The idea of greatly enlarged heart with border in the 6th space in the anterior axillary line seems to have been arrived at by percussion. We have had little success with percussion of the heart, and have seen many observers miss its size considerably by this method. Conequently, we have given up this procedure and rely largely on the location of the apex in helping to determine heart size. Our greatest reliance, however, is on that really great percussor, the roentgen ray, whose chief mission is to demonstrate differences in density, which is what we are trying to do by percussion. In this case the x-ray bears out the clinical idea of greatly enlarged heart, chiefly the left ventricle, and showed pulmonary congestion plus right pleural effusion, which was not recorded in the physical examination, another "tribute" to percussion. A word might be said about this right pleural effusion as it has long been known that in cardiac failure effusion, when present, is practically always on the right for reasons unknown. So much is this the case that the occurrence of left pleural effusion in a patient with obvious cardiac failure should make us think of the possibility of some other concurrent disease of the lung or pleura on the left, or some abnormality such as fusion of the pleural space on the right. The to-and-fro murmur along the left sternal border and at the apex is somewhat worrisome because we have so far felt that aortic regurgitation was the most likely cause of the blood pressure disturbance, and we have considered relatively acute disease of the aortic valve as a very likely possibility. In such circumstances we would like to hear the murmur over the aortic area as well as along the left sternal border and at the apex. It would be of some value also to know the general loudness and quality of these murmurs.

The significance, if any, of the distended abdomen escapes me. There is no mention of the spleen. The liver findings go with the heart failure. The great toe findings indicate resolving soft tissue inflammation.

In the laboratory the patient was not especially anemic and the white blood count is but little elevated with a relatively normal differential. No urine was available and again we have no serological test for syphilis. The x-ray of the foot bore out the idea of subsiding soft tissue inflammation. There is a notable absence of blood cultures or reports of same.

The hospital course was extremely rapid downhill and brief with death on the second hospital day. The reasons for the transfusion are not clear, as we would not ordinarily transfuse a patient in congestive failure with a hemoglobin of 12.6 grams. Perhaps he went into more or less of a state of shock terminally. The fact that his temperature did not exceed 99.8 is noted, and is of considerable significance if recorded by rectum; obviously mouth temperature in such a patient would be valueless.

To sum up—we have a middle-aged colored man who died with congestive heart failure, symptoms of which existed for only fourteen days. The suggestions of sepsis without fever or material leukocytosis are compatible with severe infection. The cardiac findings indicate that the locus of the infection was the aortic valve and the evidence of embolism to the toe is further evidence of valvular disease.

All evidence then leads to the diagnosis of acute bacterial endocarditis of the aortic valve with death from overwhelming sepsis and rapidly progressive congestive heart failure, with vegetations blocking the coronary ostia as basis for the paroxysmal nocturnal dyspnea.

DR. NELSON'S DIAGNOSIS: Acute bacterial endocarditis involving the aortic valve.

CLINICAL DIAGNOSIS: Acute bacterial endocarditis.

ANATOMICAL DIAGNOSIS: Acute bacterial endocarditis of aortic valve with perforation of the right anterior and posterior valve cusps.

PATHOLOGICAL DISCUSSION BY DR. GORDON HENNIGAR

The body was that of a well developed and well nourished middle aged color male. The right pleural cavity contained 500 cc. and the left pleural cavity contained 1200 cc. of serous fluid. There was 60 cc. of serous fluid in the pericardial sac.

The heart weighed 575 grams and was hypertrophied and dilated. There were brown vegetations on the posterior and right anterior aortic cusp. A 1.4 x 0.4 cm. opening was found in the posterior aortic cusp, and in the right aortic cusp there was a 0.5 cm. perforation. The reminder of the valve cusps were delicate and the attachments and commissures were normal. There was no rheumatic stigmata

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in any portion of the heart. Microscopically the vegetations were composed of fibrin and large histiocytes. No bacterial colonies were seen. At the base of the valve are areas of acute inflammation and necrosis infiltrated with polymorphonuclear leukocytes. A post mortem culture of the vegetation revealed the presence of alpha hemolytic streptococcus (streptococcus viridans) and a post mortem culture of the heart blood was sterile.

The lungs were congested and contained areas of atelectasis. The liver was enlarged and on section showed fatty infiltration and moderate portal cirrhosis. The spleen was congested. No infarction or embolic phenomena were noted in the kidneys. The brain was not examined.

This case shows features of both acute and subacute bacterial endocarditis. The rapid course, large vegetations, early destruction of valve cusps, lack of embolic phenomena, and abscess formation in the myocardium suggest acute bacterial endocarditis. On the other hand the histologic appearance of the aortic valve, the lack of bacterial colonies on microscopic section, and the demonstration of alpha hemolytic streptococcus (streptococcus viridans) point to the subacute form of bacterial endocarditis. At any rate, it is felt that this patient developed a bacterial endocarditis on the aortic valve due to the alpha hemolytic streptococcus (streptococcus viridans), that he developed early in the course of this disease a perforation of the aortic valve with resultant aortic insufficiency, and that this severe aortic insufficiency led to his early death from congestive heart failure.

Emotional First Aid Needed.

You don't have to be a psychologist to give needed first aid to "emotional casualties" of a community disaster such as a flood, fire or tornado. Knowledge of a few basic rules is all that's necessary to give first aid to a physically injured disaster victim. The same is true of persons who react badly to the emotional shock of a disaster, according to the Committee on Civil Defense of the American Psychiatric Asociation. Its material on psychological first aid, prepared for use in enemy attack but also helpful in natural disasters, appears in the September 4th Journal of the American Medical Association.

The first need is to understand and control your own emotions and to know your abilities and limitations, so you will be in a position to help others. Then you must "accept every person's right to have his own feelings," however strange they may seem. Your job is to help the victim cope with his feelings, not to tell him how he should feel. A casualty's emotional limitations are as real as physical ones. They must be taken into consideration, but his potentialities also must be sized up and given a chance to work.

"Unlike ordinary life, a disaster engenders more urgent jobs than there are people to do them. Opportunities to regain self respect and self-confidence are correspondingly greater." "Psychological first aid can help many emotionally disturbed victims to take advantage of these opportunities and thereby get back into their stride."

Here are the major kinds of emotional reactions and ways to deal with them: 1. Normal: Most people show some "signs of disturbance" which are only natural. A word of encouragement in passing is worth while. 2. Individual panic: Some lose control and rush pointlessly about, and a few such persons may set off dangerous mass panic. Gentle firmness should be tried first, then firm but not brutal physical restraint. The committee debunked "the widespread belief that a casualty in panic can be jolted out of his confusion by slapping him in the face, by dousing him with cold water, or by other forms of abuse." 3. Depressed: Some persons seem to be numbered, to lose contact with the world. A few minutes talking with them, showing a real personal interest, and suggesting simple tasks to bring them back to reality will help. 4. Overly active: The man who suddenly "takes over," issues orders, and rushes from job to job without organization can hamper those who are more reliable. Giving this man a heavy job to work off physical energy, and getting him under proper supervision will help calm him. 5. Bodily reactions: An emotionally upset person "unconsciously may convert his great anxiety into a strong belief that some part of his body his ceased to function." He must be treated with consideration for his disability, made to feel you are interested, and given small jobs so he can regain composure gradually while awaiting medical help.

The material was prepared by Drs. Calvin S. Drayer, Philadelphia; Dale C. Cameron, Washington; Walter D. Woodward, New York City, and Albert J. Glass, U. S. Army.

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PUBLIC HEALTH

MACK I. SHANHOLTZ, M.D.
State Health Commissioner of Virginia

Some Observations on Poliomyelitis in Virginia, 1954

TABLE I

REPORTED CASES OF POLIOMYELITIS, VIRGINIA
JANUARY THROUGH SEPTEMBER, 1953 - 1954

	Jan.	Feb.	Mch.	Apr.	May	June	July	Aug.	Sept.	Total
1953	5		3	3	9	17	156	262	139	594
1954	3	4	7	4	6	13	69	148	156	410

From the above table it is seen that exactly the same number of cases—37—were reported in the first six months of 1953 and 1954. The number of cases reported in July and August of 1954 was considerably fewer than in the corresponding months of 1953. In September of this year we note an unusual occurrence in Virginia, the development of the peak now rather than earlier. However, the total number of cases for the year is 184 below that for 1953.

It is seen that the attack rate is considerably lower this year, that males are affected more frequently than females though there is a slight increase in the percent of females attacked in 1954. The attack rate among the non-white population is still vastly lower than in the white population; however, the percent distribution is higher among the non-whites than in 1953: 1954, 11.71%; 1953, 7.40%.

The increase in the non-white group is further brought out in Table III.

It is evident that there is an increase in the paralyzed cases in the entire population. This may represent an actual increase or it may be due to more careful examinations made at intervals to determine muscle weakness.

In 1953, 115 cases represent 15.5% of the total

TABLE II
SEX DISTRIBUTION

Year	Cases	Attack Rate	Males	Females	%Males	%Females	White	Non-White	Attack Rate White	Attack Rate Non-White
1953	740	21.14	443	297	59.86	40.14	689	51	25.32	6.55
1954 to date	410	11.71	232	178	56.59	43.41	367	43	13.49	5.52

TABLE III

	Total		Paralytic		Non-Paralytic		Not Stated	
	1953	1954	1953	1954	1953	1954	1953	1954
Non-White Male	26	22	14	15	12	7		
Non-White Female	25	19	15	9	10	6		4

TABLE IV
DISTRIBUTION OF PARALYZED, NON-PARALYZED AND NOT STATED CASES

	Paralyzed		%Paralyzed		Non-Paralyzed		%Non-Paralyzed		Not Stated		%Not Stated	
Year	1953	1954	1953	1954	1953	1954	1953	1954	1953	1954	1953	1954
White	339	198	45.81	48.29	348	153	47.03	37.32	2	15	0.3	3.66
NonWhite	29	24	3.91	5.85	22	16	2.97	3.90		4	0.0	0.98
Total	368	222	49.73	54.15	370	169	50.00	41.22	2	19	0.3	4.63

TABLE V
AGE DISTRIBUTION

	1953	1954 Through Sept.
Median Age	7.40	7.34
Youngest	1 month	5 weeks
Oldest	50 years	45 years

TABLE VI
POLIOMYELITIS IN OLDER AGE GROUP (20 YEARS AND ABOVE)

	Total		Paralytic		Non-Paralytic		Not Stated	
	1953	1954	1953	1954	1953	1954	1953	1954
White Male	48	29	29	17	19	10		2
White Female	63	38	29	23	34	10		5
Non-White Male	2	1	2	1				
Non-White Female	2	1	1		1			1

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740. In 1954, 69 cases are 16.8% of the total 410 cases. There are 21 cases above 30 years of age.

The use of gamma globulin as permitted by the Office of Defense Mobilization has been different this year. In 1953 it could be used only for family contacts up to 15 years of age, later advanced through 15 years in the dosage of 0.14 cc per pound of body weight. This year there has been no age limit and the average dose has been 10cc rather than 7cc. If given by cc per pound of body weight it has been computed on the basis of 0.2cc for each pound. At first it was to be given only to groups larger than a family unit and in August this was modified to include family contacts who might be in the period of incubation.

The Salk Vaccine was administered to participating second grade pupils in Loudoun, Fairfax, Henrico, Chesterfield, Norfolk, Smyth and Washington Counties and the Cities of Bristol and Richmond. In these areas gamma globulin has not been available for contacts of poliomyelitis. This action was taken at the request of the Poliomyelitis Evaluation Center, Ann Arbor, Michigan, in order that the recipients of the Salk Vaccine might have exposure to the disease without possible interference or modification. The results of the evaluation of the Salk Vaccine will probably be known by April 1955, and it is hoped that proof will be available that paralytic poliomyelitis is prevented through its use.

MONTHLY REPORT OF THE BUREAU OF COMMUNICABLE DISEASE CONTROL

	Sept. 1954	Sept. 1953	Jan.-Sept. 1954	Jan.-Sept. 1953
Brucellosis	7	10	37	48
Diphtheria	1	7	27	63
Hepatitis	159	199	3105	1848
Measles	73	43	23451	4670
Meningococcal Infections	1	12	78	157
Poliomyelitis	156	139	410	594
Rocky Mt. Spotted Fever	7	6	35	56
Streptococcal Infections (Including Scarlet Fever)	187	187	3751	4362
Tularemia	3	1	28	23
Typhoid Fever	7	7	42	41
Rabies in Animals	12	20	284	349

1955 Post Convention Trip to Europe.

The American Medical Association, in conjunction with United Air Lines, has arranged an attractive post-convention tour to Europe. Seven countries will be visited: France, England, Italy, Holland, Belgium, Germany, and Switzerland. Physicians and their wives can go to Europe following the annual A.M.A. Convention in Atlantic City, June 6-10.

With the A.M.A. meeting being held in Atlantic City, physicians and their wives are offered an unusual opportunity to combine a trip to the East Coast with a visit to these interesting European countries. Similar trips have been sponsored by the California Medical Association, the World Medical Association, and other groups when their meetings have been held on the coast.

The European medical tour party will leave New York International Airport aboard special deluxe chartered airlines on Sunday, June 12. They will arrive in Paris late Monday morning, June 13.

All through the tour the party will stay at luxurious hotels in the many cities that will be visited. Motor coaches will provide interesting side tours to historic and scientific points.

Arrangements are being made for medical meetings in Paris, Rome, Lucerne, and London. Leading European scientists will lecture on topics of current interest to all physicians.

The return trip will be on Saturday, July 9, arriving in New York on the afternoon of July 10. Complete information and reservation blanks can be obtained by writing A.M.A. Post-Convention Tour c/o United Air Lines, 5959 South Cicero Avenue, Chicago 38, Ill.

NOTES* ON PULMONARY TUBERCULOSIS

Modern Therapy (IV)
Non-Sanatorium Treatment of the Active Case (A)

Immediately following diagnosis of active pulmonary tuberculosis, a decision must be made with respect to the type of treatment to be prescribed. With extremely rare exceptions treatment of some form will always be indicated for the active case, whether for "control" or for cure.

No one can predict with certainty, at time of diagnosis, what form, or to what extent various types of treatment may eventually be required for the control or cure of *any* given case of active tuberculosis. Before the days of modern therapy patients with advanced disease were observed to recover on ambulatory treatment alone; minimal cases sometimes required as many as twenty-four hours a day flat-bed-rest *for months*, to get well. These, of course, illustrate the extremes rather than the rule.

Because of this well known wide variation in treatment needs, whatever rest schedule is prescribed for *any* case must be considered as employed upon a *trial* basis, at the beginning. While based primarily upon what experience generally has shown through the years to be necessary initially for the average patient with corresponding involvement to make satisfactory improvement, the trial schedule today for many patients will not be as rigorous as it would have been before the discovery of the new powerful medicinal adjuvants. One of the *natural* advantages to be expected to result when specific drug therapy is administered *would* be a liberalization of concurrent rest schedules. If the patient makes anticipated progress upon a given treatment regime, well and good; if he does not, the rest schedule will be intensified and appropriate adjuvants added or changed, as may be required from time to time, to keep abreast of actual treatment needs, and as these become apparent during the course of the disease.

The first consideration in treatment is whether the patient obviously is in need of a substantial amount of rest *in bed* because of clear cut medical and/or surgical indications (see Dec. 1953 issue Va. Med. Monthly). If the answer is in the affirmative, the patient should be put to bed at home until sanatorium placement can be arranged. He should be started on conventional drug therapy almost categorically.

Home care for essentially bed-fast tuberculous patients is at best an expedient and should be condoned, in most instances, only when sanatorium placement cannot be negotiated.

Success of any serious effort to obtain the "equivalent" of institutional care outside a sanatorium is contingent upon almost literal conversion of the home into a "sanatorium". The average home does not lend itself to this. Makeshift attempts, carried out over considerable periods, usually produce second-rate results; the patient may not die (too soon) but too often he forfeits his chance to get completely and permanently well.

As in the case of criteria for application for admission to a sanatorium, eligibility of the newly diagnosed patient for non-sanatorium treatment, (irrespective of the availability of sanatorium beds) is by no mean inflexible. It is bound by no hard and fast rule. In the opinion of the Virginia State Health Department, patients chosen for non-sanatorium care would be limited largely to selected minimal, active or occasional more advanced active cases, with lesions not highly unstable by x-ray; no cavity would be roentgenologically discernible; for the most part the patients would be asymptomatic. Most would not cough or expectorate; gastric lavage cultures routinely performed to obtain laboratory confirmation of diagnosis or activity status, would show tubercle bacilli but rarely or intermittently. Thus the simplest of precautions would protect against spread of infection. By and large, such patients would *not* require isolation *at home, or* in an institution, to protect others. With few exceptions they could associate freely with fellow workers at places of employment.

The next question is what type and how much treatment should be recommended; should drug therapy be prescribed categorically? In the opinion of the Virginia State Health Department drug therapy *need not* necessarily be prescribed for each candidate for non-sanatorium care.

As intimated above, the degree i.e., the character and extent of lung involvement at time of diagnosis,

*Prepared by the Virginia State Health Department.

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and the innate capacity to resist tuberculosis, are well known to vary widely, both independently and in combination, in different individuals. An almost infinite variety of clinical patterns conceivably might result from a kaleidoscopic blending of these factors —a prediction repeatedly confirmed by experience. Clinical entities are actually observed to run virtually the entire gamut of theoretical possibilities (much as colors in a spectrum). Evenness of dispersion of these entities throughout may not be wholly comparable to merging of colors from band to band in a spectrum, but even allowing for some "bunching" here and there, the analogy, though imperfect, is far from inapropos.

Accordingly, it would appear reasonable that prescribed therapy must be tailored to match all of the correspondingly, highly individualized, broadly diversified treatment needs, if it is to offer assurance of success *at minimum cost* to the patient and his community, whether the patient is treated inside or *outside* a sanatorium. (It should be born in mind that patients in sanatoria do not adhere to a single bed-rest regime. Rest schedules vary from flat-in-bed twenty-four hours a day, to two to four hours in a workshop every day.)

In actual practice, individual needs have been found to vary all the way from those of the few, whose disease, even today, cannot be "controlled" to say nothing of cured, by any known method, to those of patients classified as "apparently inactive" (Virginia State Health Department) who require *no* treatment. To the latter group might be added many patients with active disease, usually minimal, who according to Public Health Service x-ray survey reports, appear to be *capable* (statistically) of getting well spontaneously, but who, as individuals, are indistinguishable from patients with corresponding disease who are dependent for cure upon at least a modicum of formal treatment; to be safe the spontaneously curable case *must be treated,* along with others in the same general category.

The bulk of patients with active tuberculosis lie between these extremes—among the innumerable *intermediate* bands of our clinical "spectrum"—both as regards clinical status and treatment needs.

Some with minimal disease, where the exudative component is small by x-ray and whose history suggests an above average resistance, may belong to a group where extra-curricular pursuits only, need be curtailed to varying degree (as a trial schedule). Short term formal daily rest periods during leisure hours (in contrast to hours at work) may or may not be prescribed, as well.

Another "band" or group might conceivably be composed of those who closely resemble the above but whose over-all clinical status suggests need for more drastic or virtual elimination of extra-curricular pursuits (Saturday night poker, Thursday afternoon golf, etc.), supplemented by drug therapy from the very beginning, upon an out-patient basis.

Then one might encounter patients with definitely more advanced disease, still with comparatively little apparent exudation, no visible cavity, an initial gastric washing positive for tubercle bacilli on culture, combined with a history of but average resistance. Here drug therapy might be indicated, *almost* routinely, sanatorium care not necessarily.

Finally would come the patients in whom need for sanatorium care is clear cut—from the refractory, the predominantly exudative, or the highly unstable, or the persistently febrile minimal case with a history that may or may not be suggestive of below average resistance, to the farther advanced toxic individuals, with cavity, positive sputum, etc.

Precisely how broad a band on our tuberculosis "spectrum" should be assigned respectively to each of the few suggested examples of apparently distinct groups of active cases cited above, *and many many others,* will depend entirely upon the physician in attendance. Indeed there are some who would recognize no intermediate bands at all with respect to treatment needs, in spite of the absence of recorded major gaps in our analogue of clinical disease. These physicians would hospitalize *every* active case, of which there are estimated to be about ten thousand in Virginia, not including those already in sanatoria. This is an *easy* solution for everybody except the patient and his family and the tax-payer. No discrimination is required, but *much money* for construction of sanatorium beds might eventually have to be forthcoming to implement this type of treatment in the absence of a case finding program deliberately "frozen" to conform to existing facilities for hospitalization.

Other equally well known physicians do not seek immediate hospitalization for every newly diagnosed active case—but *do* almost invariably include, from the very beginning, drug therapy, as part—sometimes a major part—of prescribed non-sanatorium treatment, a practice which again minimizes need for

individualization. Only time will tell whether this also, is as wise as it is simple. Will *all* systemic rest and *all* drug therapy later be discontinued *simultaneously,* too? *If* there is a place for continued systemic rest *after* drug therapy has been discontinued, theoretically there might be a place for it to be employed as a single effective element of therapy *at the beginning* of treatment (as suggested above) as well as at the end. The subject will bear future elaboration.

Of course, when all is said and done, more important than the form of treatment initially selected or subsequently chosen for any given case, is an unwavering insistence upon the part of the attending physician, that treatment be *adequate* in every case as proved by *results obtained* (as revealed by closely spaced discriminating clinical evaluation including x-ray.) He should make sure that prescribed treatment is modified as often and as drastically as may be necessary to meet treatment needs or conversely, liberalized as rapidly as satisfactory progress under the one in force would seem to justify. To be successful, whether much or little, treatment *must* be adequate i.e., prescribed in "quantity sufficient" for the purpose—to get the job done in each individual case without regard to the extent of the disease, and irrespective of what other patients with corresponding involvement may require to achieve a similar result. *Treatment must not be discontinued* until there is good reason to believe the patient is completely and permanently well.

Contact Lenses.

Two-thirds of those who want the new contact or corneal lenses—even just for appearance—can wear them safely. However, they are warned against "high-pressure advertising" and the lenses "should be obtained only through qualified eye doctors who will ethically advise their use only when careful study and examination prove their need and indicate they may be used." "This will protect the patients' eyes and pocketbooks," Drs. Maurice W. Nugent and Conrad Berens said in the September Today's Health magazine, published by the American Medical Association.

The newest of these invisible lenses is the corneal lens, which is much smaller than a dime and covers only the cornea, or transparent covering of the pupil and iris. The contact lens has a central portion over the cornea and a flange extending out over the sclera, or white part of the eyeball. The latest lenses can be worn without fluid, which was a stumbling block to earlier types of lenses. The only real hazard in the new lenses is corneal abrasion. However, they said, the minute rubbed spots heal quickly by themselves when the lenses are taken off for a while.

Persons who can wear the lenses include first those who because of accident or disease cannot see well with spectacles; those who have had cataracts removed and find lenses more satisfactory than spectacles, and those who wish them for appearance only. Once this last group was not considered, but now it makes up the largest part of all wearers.

There is no real danger in contact or corneal lenses if the patient will accept the advice of his qualified eye doctor, who examines for disease and eye muscle disorder, and accurately measures for the best type of lens. Then he supervises the important training period during which the patient learns to relax his eyelids and tolerate longer wearing periods.

About a third of all persons fitted cannot tolerate the lenses at all. Another third can wear them for special purposes for limited times—such as actors while on stage. The last third is "the fortunate group who can wear them to the exclusion of spectacles, if the lenses are well-fitted and the wearer cooperates completely with his qualified eye doctor."

"These new types of lenses are still too far from perfection to permit their being sold to the general public by any high-pressure advertising or salesmanship." Obtaining them only through qualified eye physicians will protect the public and also "permit this type of lens development to continue without the unfavorable criticism that will come if too many people buy them only to find that their eyes won't tolerate them."

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MENTAL HEALTH

JOSEPH E. BARRETT, M.D.
Commissioner, Department Mental Hygiene and Hospitals

Some Recent Activity in the Field of Mental Health

In 1953 the Governors' Conference, held in Seattle, unanimously endorsed the report "Training and Research in State Mental Health Programs", prepared by the Council of State Governments.

That report strongly recommended interstate compacts and arrangements for the training of psychiatric personnel and joint participation by the States in mental health research. It also recommended periodic regional mental health conferences devoted to a discussion of how these and other efforts could be accelerated.

In November 1953, the Southern Governors' Conference at Hot Springs, Virginia, took notice of this action and adopted the following:—

The Southern Governors' Conference therefore recommends:—

(1) That the Southern Regional Education Board begin an immediate survey of facilities for the training of psychiatric personnel in the South, and that it report to this Conference those institutions best qualified to take additional students in the psychiatric disciplines from states which have no such training facilities.

(2) That the Board also initiate a survey of institutions doing mental health research in the South, and that it recommend to this Conference those institutions capable of being enlarged to do additional research.

(3) That upon completion of the above surveys by the Board, but in any case not later than July 30, 1954, a Southern Regional mental health conference be held to discuss the surveys and draw up interstate compacts in mental health research and training.

(4) That, in the interim, the individual states make official surveys of their training and research facilities—with particular emphasis upon raising mental institutions in each state to the level of residency or affiliate accreditation—and that the results of these surveys be presented to the 1954 regional mental health conference.

(5) That the Southern Regional Education Board be requested to report the results of its study and any action taken to the 1954 Southern Governors' Conference.

In keeping with the above Resolution adopted by the Southern Governors' Conference, the Southern Regional Education Board Mental Health Training and Research Project was initiated and finances for its operation were secured from the National Institute of Mental Health, a branch of the U. S. Public Health Service.

As a part of this project state committees were appointed by the governors. The role of the State committee, as described, is as follows:—"State committees appointed by the governors will survey state and university programs of mental health training and research in order to identify needs and resources —the committees will work from uniform questionnaires, prepared by the Project Staff with the advice of the appropriate professional association."

In February, 1954, the Honorable Thomas B. Stanley appointed Dr. Joseph E. Barrett, Commissioner of the Department of Mental Hygiene and Hospitals, Dr. R. Finley Gayle, Chairman, Department of Psychiatry and Neurology, Medical College of Virginia, and Dr. Frank J. Curran, Department of Neurology and Psychiatry, University of Virginia, as the Virginia committee. Dr. Barrett was elected chairman of this committee.

All three members of the committee attended a meeting with the Project Staff in Nashville in early February at which time the detailed procedures for the individual state surveys were developed.

In Virginia the survey was handled from the Department of Mental Hygiene and Hospitals with the assistance of additional personnel from Eastern State Hospital. In March 1954 appropriate schedules were sent to deans of graduate schools, to university department heads interested in the preparation of mental health workers, to directors of schools of nursing, and to all mental institutions and mental guidance clinics, including Veterans Administration facilities.

The recommendations compiled from the facts so collected are as follows:

1. That the quality and scope of the training program for psychiatrists in Virginia be enlarged by adding qualified psychiatrists to the neurological and psychiatric teaching staffs at the University of Virginia and the Medical College of Virginia; by establishing combination residences in order to pool the psychiatric experience in these hospitals, in State hospitals and in guidance clinics; by providing fellowships and special funds for those on leave to secure additional training so that patient care and educational progress can proceed simultaneously.

2. That full collaboration of clinical psychologists and psychiatrists be brought about in mental hospitals by requiring that one member of the psychological team in each organization have preparation at the doctorate level plus experience comparable in years and variety to the psychiatrists with whom he works. Until preparation of this competency can be made available in Virginia, State fellowships could be provided, when necessary, to permit preparation elsewhere.

3. That a course in psychiatric nursing be set up on a graduate level in Virginia so that sufficient qualified personnel can be found to fill the 87 positions for which money has been budgeted and to add others as more funds are made available.

4. That a concerted effort be made to encourage college graduates with desirable personality qualifications to prepare as psychiatric social workers at the School of Social Work, R. P. I. where an additional 19 students could be accommodated with the present faculty. If Virginia applicants do not apply in the near future, these facilities should be made available to college graduates from other states. More public interest might also fill the 15 positions for which budgets are now available and others badly needed to enlarge the work.

5. That the public be made aware of the pressing need for funds to strengthen the teaching staffs training psychiatrists, clinical psychologists at the master's level, and psychiatric nurses; also to make adequate research possible. In this connection it should be pointed out that when present teaching hospitals are badly understaffed, as are guidance clinics and State hospitals, little can be done beyond providing routine care for patients. Time for analyzing current methods, evaluating results and instituting new treatments is completely lacking. Only sufficient funds can release keen minds for research while their work is taken over by additional staff.

6. That coordination of effort toward stimulation and supervision of research be effected by an autonomous organization serving the sixteen states involved. Such an organization could be served by regional professors carrying growth in thinking from area to area.

At the Regional Mental Health Conference held in Atlanta July 21-24, 1954, it was recommended that a Southern Regional Mental Health Training and Research Council be established as an integral part of the Southern Regional Education Board and that each state, be requested to allot $8,000 annually to finance the operation.

These recommendations will all be presented to the Southern Governors' Conference in November 1954, and it is our earnest hope that they will be approved unanimously.

Advance in Virginia, however, rests primarily on the understanding and action of those in the state. Those answering the schedules previously mentioned —men closely associated with the problems of educating workers in the psychiatric field and of stimulating research in this area—did not hesitate to point out that at least $568,000, in addition to present budgets, should be made available yearly to place enough workers in teaching units, service areas (hospitals and clinics and guidance centers), and research programs to push the work ahead.

The reports include a special table showing how these extra funds would be spent: $267,708 to make it possible to employ the needed qualified psychiatrists; $118,266 for clinical psychologists, $94,031 for psychiatric social workers and $31,781 for placing a sufficient number of qualified nurses. These experts also suggested additional laboratory equipment needed at the University of Virginia which could be purchased for $25,000; another $25,000 needed there for financing fellows and interns; and an additional $30,000 for the maintenance of a greater number of beds where patients could be treated in an enlarged teaching and research program.

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MEDICO-LEGAL NOTES

Serological Tests in Disputed Paternity Cases*

The use of blood grouping tests in relation to paternity is intimately bound up with the development of blood transfusion and the discovery of blood groups by Landsteiner, about the turn of the century.

Landsteiner established the fact that all human beings may be divided into certain distinct blood groups, the identity of each group depending upon the presence in the blood of specific isoagglutinins and isoagglutinogens independent of disease. He called his original groups A, B, and O. The fourth and rarest group was discovered by Von Decastelo and Sturli. This was the AB group. Ostenberg and Epstein and Von Dungern and Herszfeld proved that the four Landsteiner groups are inherited. Bernstein (1925) discovered the exact mechanism of heredity and showed that these inherited factors follow Mendel's laws.

In 1927 two other factors were found in human blood. They were labeled with the letters M and N. Every person's blood contains one of the two or both together, thus permitting the recognition of three further varieties of blood, known as type M, N, and MN.

There is no one whose red cells are devoid of both M and N, in sharp contrast to the A and B factors which are absent in group O.

It must be clearly understood at the outset that the use of blood tests are of value only in proving that an individual could not be the alleged father of the child in question. Under no circumstances can it ever prove that the alleged father is indeed the father. In other words, the test operates as a purely negative finding.

The application of blood grouping tests to legal procedure is based on the following facts:

(1) Blood groups can be determined at birth, but it is advisable to wait at least a month after the birth of a child before issuing an opinion regarding its group.

(2) Blood groups remain unchangeable during life.

(3) Blood grouping tests can be repeated as many times as necessary.

In the hands of competent qualified examiners, the tests are reproducible.

Moreover while it is preferable it is not absolutely essential in all cases to have the blood of the mother, child and father. Often the father can be excluded on the basis of the child's and his blood.

While Virginia, as well as many other states, does not have a statute concerning the use of blood grouping in paternity cases, at least two courts, Maine and Maryland, appear to have taken judicial notice of the validity of the A-B-O and M-N grouping tests. The Maryland court said in taking notice of the validity of the tests, "Blood tests are now accepted everywhere, scientifically, as accurate, and the courts and legislatures have generally followed the same view."

The court seems to overstate the degree of acceptance by other courts in general, but it does show a trend which will be followed as more and more states pass upon the question.

*Contributed by Dr. Francis J. Januszeski, Fellow in Legal Medicine, Medical College of Virginia.

Are You A Good Doctor?

Dr. Merrill D. Prugh, President, Ohio State Medical Association—"To be a good doctor, each one of us must:

"1. Give good medical service.

"2. Make our services available at all times to all who need them.

"3. Make our fees fair to both the patient and the doctor.

"4. Make our personal interest in the patient known to the patient.

"5. Treat both patients and fellow practitioners as we would like to be treated.

"Old, you say, but so is the best rule of human conduct ever given, namely, The Golden Rule, and in 2,000 years no one has been able to give us a better one.

"If we will do these few simple things, public relations will be no unsolved problem and socialized medicine no threat. We will have the respect of the public and best of all, our own self-respect."

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WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF VIRGINIA

President—MRS. K. W. HOWARD, Portsmouth
President-Elect—MRS. MAYNARD EMLAW, Richmond
Recording Secretary—MRS. LEE S. LIGGAN, Irvington
Corresponding Secretary—
MRS. LEMUEL E. MAYO, Portsmouth
Treasurer—MRS. WILLIAM C. BARR, Richmond
Publication Chairman—MRS. WM. S. GRIZZARD, Petersburg

New President.

Lucia K. Emlaw, wife of Richmond physician, Dr. Maynard R. Emlaw, was installed as president of the Woman's Auxiliary to The Medical Society of Virginia on November second.

Born in St. Peter, Minnesota, she has lived since infancy in Chesterfield County and in Richmond. Possessed of rare charm and talent, she has a wide

MRS. MAYNARD EMLAW
President, Woman's Auxiliary

variety of interests, from which many local organizations have derived benefit. For example, the League of Women Voters are accustomed to having her model glamorous outfits in their annual fashion shows, but are equally willing to accept her decision on some intricate item of parliamentary procedure. Members of the Tuckahoe Woman's Club have enjoyed her as a sprightly comedienne in their plays; she has for several years been Drama Department chairman of this organization. A regular soprano in the Bethlehem Lutheran Church choir, she is also its president. Lucia holds offices in the Friday Study Club and the Parliamentary Law Club of Richmond, and is a member of the National Association of Parliamentarians. In addition to serving on the General Board of Sheltering Arms Hospital, she enjoys doing volunteer clerical work there.

The Auxiliary's new president believes that an organized group of doctors' wives can be the most effective force for promoting good health projects and health education in their community. "Although we enjoy belonging to women's clubs and other groups," she said recently, "I feel that the Auxiliary and the Church are the two places where our efforts have the deepest meaning." Lucia has found that doctors' wives everywhere have a kinship of interests and problems. After touring in some half-dozen European countries this summer ('54), she observed excitedly, "Why, they are exactly like us. They work on health projects, and have to cope with the same delayed meals, telephone calls and cancelled social engagements as we do!"

Since joining the Woman's Auxiliary to the Richmond Academy of Medicine in 1948, Lucia has worked tirelessly in one office after another on both state and local levels. She was the State Auxiliary's Legislation Chairman for three years, and has a wide acquaintance among our lawmakers. Her good work in the Woman's Auxiliary to the Southern Medical Association has led to her being elected a vice-president for 1954-'55.

Lucia Emlaw is eagerly anticipating her term of office as the chief representative of the Medical Auxiliary, because she sincerely believes that through its activities doctors' wives can act as a liason between the medical profession and the public, and can render real and active aid to Virginia's doctors.

M.G.F.

Southwestern Virginia.

The Auxiliary to the Southwestern Virginia Medical Society met on September 16th at the Hotel Roanoke. Mrs. C. C. Hatfield, Saltville, President, presided. Members and guests were welcomed to the meeting by Mrs. Reverdy Jones of Roanoke.

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New officers for the coming year were elected as follows: President, Mrs. M. C. Newton, Narrows; president-elect, Mrs. F. C. Bedsaul, Floyd; vice-president, Mrs. Randolph Chitwood, Wytheville; secretary, Mrs. E. L. Bagby, Pearisburg; and treasurer, Mrs. J. F. Shaffer, Abingdon. They were installed by Mrs. James P. King, vice-president of the State Auxiliary.

Before and after the meeting, refreshments were served by the Roanoke ladies. A banquet at the Hotel Roanoke completed the day.

CORNELIA P. STONE (MRS. C. A. JR.)

Petersburg.

The first fall meeting of the Petersburg Auxiliary was held at the Petersburg General Hospital on September 28th. Mrs. Clyde Vick, Jr., president, introduced and welcomed the following new members: Mrs. W. H. Stout, Mrs. C. L. Saylor, Mrs. W. P. Youngblood, Mrs. E. P. Yerby, Mrs. H. S. Gould, and Mrs. Harvey Goode.

The auxiliary voted to aid the National Council of Jewish Women in manning the Red Cross Bloodmobile during its visits to Petersburg this year.

Upon recommendation of the executive board, the Auxiliary also adopted the following projects:

To offer assistance and money to the class for mentally retarded children in Petersburg;

To collect and store children's clothes to be used by children who are placed in foster homes;

To collect samples of drugs from their husbands' offices to be turned over to the clinics at Petersburg General Hospital;

To aid the Mental Hygiene Society of Virginia by all members joining the Southside Area Chapter; and

To offer service to the Petersburg Cancer Clinic.

The auxiliary has a committee to establish a nurses' club and to investigate how to set up a scholarship for a deserving nurse. Action will be taken on this at the October meeting.

MRS. JOSEPH P. WHITTLE
Publication Chairman

New Books.

The following books are among those which have recently been received by the University of Virginia Medical School Library. They are available to our readers in that area:

Behrens—Atomic Medicine
Boies—Fundamentals of Otolaryngology
Burch—A Primer of Cardiology
Burch—Spatial Vectorcardiography
Clarke—Iron Transport Across Membranes
Fisher—Protein Metabolism
Freud—On Aphasia
Greenacre—Affective Disorders
Greenberg—Chemical Pathways of Metabolism
Howorth—A Textbook of Orthoptics
Pratt—Cardiovascular Surgery
Schinz—Roentgen Diagnostics
Walker—Biochemistry and Human Metabolism
King—Psychomotor Aspects of Mental Disease
New York Diabetes Association—Newer Concepts of the Causes and Treatment of Diabetes Mellitus
Longerich—Aphasia Therapeutics
Mayo Clinic—Anesthesia Abstracts
Progress in Neurology and Psychiatry
Yater—Fundamentals of Internal Medicine
Year Book of General Medicine
U. S. Army Medical Service—Symposium on Operative Eye Surgery and Recent Advances in Ophthalmology
Welch—Principles and Practice of Antibiotic Therapy
Bacon—Atlas of Operative Technic: Anus, Rectum and Colon
Lerner—Dermatologic Medications
Lillie—Histopathologic technic and practical histochemistry
Scott-Brown—Methods of Examination in Ear, Nose and Throat
Hale—Anesthesiology
Hoffman—The Biochemistry of Clinical Medicine

Films In Psychiatry, Psychology and Mental Health. By ADOLPH NICHTENHAUSER, M.D., MARIE L. COLEMAN, and DAVID S. RUHE, M.D. Medical Audio-Visual Institute of the Association of American Medical Colleges. Health Education Council, New York and Minneapolis. 1953. 269 pages. Price $6.00.

This book is a result of a great deal of work. It is an excellent reference book, not only in determining the films available but also in its suggestions concerning methods of discussion and utilization of these films in visual education. Forty-one films are reviewed. The review consisting of a brief description of the film, and an appraisal of it from the point of view of its content, presentation, effectiveness and utilization. In addition 50 other available films are listed giving title, time of running and a brief description. A very nice audience guide of the 41 films which have been reviewed is to be found at the beginning and ending of the book.

I feel that this work is well worthwhile as a reference book and an addition to the psychiatric literature to be found in a medical library.

LUCY S. HILL, M.D.

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MISCELLANEOUS

WORK PRESCRIPTION

A Co-operative Procedure with the Practicing Physician in Vocational Rehabilitation

WILLIAM F. HICKEY, JR., M.D.,*
DOROTHY A. OATES†
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Boston

The phrase "light work," used so often by physicians to a patient or to his family or included in reports to insurance companies or welfare agencies, has little meaning by itself.

All work requires nearly maximal effort and in employment today every worker, whether bookkeeper or longshoreman, is expected to deliver a full day's work to the limit of his abilities. To the partially paralyzed or the cardiac patient, even getting to and from work may be arduous although the work itself may be "light." To the psychoneurotic or the anxiety-ridden person intense concentration may be more difficult than a day's labor in the streets for a healthy man. All work, then, is "light" or "heavy," depending on the physical and emotional capacity of the individual worker. It is self-evident that what may be "light" for one person may be strenuous for another.

One should consider, then, how a recommendation for "light work" may affect the patient to whom it is addressed. Though puzzled, he attempts to follow this poorly defined medical prescription, perhaps with the consequence that he finds no work and begins to question his personal adequacy. Because of repeated failures to obtain "light work" he becomes confused and discouraged and does not put his best foot forward in his interviews with prospective employers. Family quarrels have occasionally developed from a misunderstanding of such recommendations. Wives have charged their husbands with indolence because they could not obtain employment. In some cases the medical recommendation of "light work" has deprived patients of their eligibility for assistance under the provisions of the Aid to Dependent Children and Disability Assistance programs, and has jeopardized the rights of workers under the Workmen's Compensation Act.§

When he prescribes "light work" for a patient, a physician may be aware, through years of experience and as a result of thorough knowledge of the patient's limitations, of the effort that such a patient is able to make. But how clear is the job picture in the doctor's mind? In general, physicians have not evaluated the patient's capabilities or limitations and compared them to the demands of specific jobs. They cannot know the various types of activity that each job entails. Even after careful perusal of the *Dictionary of Occupational Titles*, one can never be sure what activities will be required in a given position. For example, the job of shipping clerk in one company may be purely clerical, whereas, in another company, it may be so strenuous as to be suitable only for a vigorous and athletic worker.

The physician may avoid many disappointments for his patients by turning to the resources of the Commonwealth available for people of working age whose physical or emotional disabilities are substantial employment handicaps and yet who may be expected, if properly served, to become employable within a reasonable length of time. Co-operative procedures with the participation of physician, medical social workers in hospitals and clinics, and vocational counselors in the State Division of Vocational Rehabilitation should lead to a job objective that meets the physical capacities as well as the over-all interests and abilities of the patient. Of the team the patient himself is the most important member; the family must also understand its part in the co-operative procedure. It should be emphasized that work capacity depends not only on what a person

Reprinted from The New England Journal of Medicine, Vol. 250, No. 21, May 27, 1954, with permission of the Journal and the authors.

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§The opinions stated in this article are those of the authors and are not intended as a policy statement of the Massachusetts Division of Vocational Rehabilitation.

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can do but on what he believes he can do. A successful program works not *on* a patient but *with* him.

To fulfill his part in the plan, the physician should concentrate his attention on specific activities that the patient may or may not be able to do. Preferably, the focus should be on the positive side. To achieve some degree of uniformity, a sample chart of activities has been suggested (Table I). In completing this chart, the doctor indicates the guideposts needed by his patient in daily routine activities and also provides a prescription for the vocational counselor whose responsibility is to help the patient obtain employment. The type of work that meets the patient's needs is determined only in part by his physical capacity. By describing permissive activities for the patient in accordance with the chart, the physician provides the basis for the complete evaluation necessary in planning for the vocational objective. The whole team must decide upon the patient's total personality in both genetic and dynamic terms and must also assess his readiness for vocational rehabilitation.

The final determination of employability, distinct from physical ability to work, must be the judgment of the vocational counselor. He is the member of the team who knows the industrial opportunities open within a given community, as well as the hiring specifications of employers at a given time, and who can fit together the various contributions of the other members of the team into a workable plan. In practical terms, the likelihood of getting work depends less on the physical capacity of the patient than on such factors as age, education, and recency of work experience. Moreover, the patient's personality, his ability to get along with others and his drive for independence are added elements in his employability. In the last analysis, finding opportunities for employment depends to a large extent on the knowledge of the labor market at a given time and on an acquaintance with the hiring specifications of employers within that labor market.

TABLE 1. *Activities Chart.*

Activity	No Limitation	Some Limitation	In Hours
Walking			
Climbing (stairs)			
Lifting (in pounds)			
Carrying (in pounds)			
Stooping			
Running			
Pushing			
Reaching			
Environmental conditions to be avoided (specify):			
Total hours of activity recommended at this time:			
in six months:			
Use of public transportation recommended Yes No			
Other limitations—specify:			
Other comments (describe patient's major capabilities):			

CASE REPORTS

Case 1. A 59-year-old man with a diagnosis of rheumatic heart disease with mitral stenosis and insufficiency and atrial fibrillation, complicated by osteoarthritis of the lumbar spine, was referred to the Massachusetts Division of Vocational Rehabilitation by the Massachusetts Heart Association for help with placement in employment suitable to his disabilities. On digitalis he was well compensated. Although born in Russia, he read and wrote English well. He had been out of employment for 13 months, living on his savings and income from his wife's part-time employment. His work history had been excellent, mainly as a shipper in department stores. He know how to pack china and fine clothing and was familiar with the mailing zones, both domestic and foreign. The problem was to return him to employment suitable to his disability, utilizing his past experience. By a chain of fortuitous circumstances, a shipping job was found in a small company. The job was studied and found to be within his physical capacities, and the company was willing to make some minor job adjustments. He was placed in an area of familiarity, the emotional trauma associated with job change (especially for an older worker) thus being minimized. In this case successful job placement depended on searching for a *specific* job rather than "light work" in general.

Case 2. A 28-year-old single man was admitted to a tuberculosis sanatorium in 1939 with a diagnosis of bilateral pulmonary tuberculosis. His work experience was in unskilled jobs, such as porter and watchman, probably owing to the fact that he entered the labor market during the depression, having graduated from high school in 1930. He was the only child and the sole support of a widowed mother. He was hospitalized from 1939 to 1951, when he was discharged from the sanatorium, the tuberculosis apparently having been arrested. His mother had been

forced to apply to public welfare for support during his hospitalization. He was referred to the Massachusetts Division of Vocational Rehabilitation by the physician who was following his case after discharge. The problem was to provide a skill within his physical and intellectual capacities and also within his interests. It was decided by the patient and the vocational counselor that television repair would be a suitable vocational objective. The doctor agreed with this plan in conference with the vocational counselor. After training of about a year and a half, the patient was placed as an electronic technician, however, this job being much less strenuous than that of a television repairman and still in line with his training. Thus, despite his present age (43 years) and long hospitalization, the client is suitably employed, vocational training having provided not only a skill but also an opportunity for much needed resocialization before he entered the employment world.

SUMMARY AND CONCLUSIONS

The physician is expected to focus on the permissive activities that a patient may undertake by completing an estimate of physical activities rather than simply recommending "light work."

Referral of the handicapped person to community resources, such as the State Division of Vocational Rehabilitation, which are specially structured for vocational counseling, training and placement, is urged.

Selective placement for employment depends not only on a handicapped person's physical and mental capacity but also on age, education, quality and recency of work experience, personality structure and the particular opportunities within a given labor market at a given time.

THE SPEECH CENTER

When thinking of a handicapped child or adult, a physician seldom thinks of one with a speech or voice disorder, and yet approximately 5% of our population have major speech defects. Why is this not recognized? Why do we not know about it? Speech defectives do not wear braces or go about on crutches. They either cannot speak for themselves or because of their problem are relatively quiet and reserved. The disorder does not show. In all phases of medical education the thorough study of the speech function and its disorders is unusual, yet in the special areas of pediatrics, orthopedics, neurology, psychiatry, and otolaryngology speech disorders are necessarily encountered in relative abundance. Most physicians are not prepared to examine, diagnose, or treat these cases and the patients must be referred elsewhere.

In the Richmond area, the Speech Center (sponsored by the Junior League of Richmond), located at 231 North 12th Street, is the private organization prepared to offer these services. For the past four years this speech center has been available to children only. However, beginning in September 1954 it was opened to adults also. Speech examination, diagnosis, and therapy will be under the direction of Mr. John C. Collison. Mr. Collison comes to Richmond from the University of Florida Speech and Hearing Clinic where he has completed preliminary requirements for the Ph.D. degree. He received his M.A. from Northwestern University and B.A. from Dennison University in Ohio. As assistant to Dr. James Mullendore he was at the University of Virginia Speech Clinic for two years prior to beginning work on his doctorate degree. Mr. Collison is a professional member of the American Speech and Hearing Association, the organization designed to meet the needs of the speech handicapped.

The Speech Center and Mr. Collison recognize the need for cooperation between speech correction workers and other professional and lay groups interested in the speech handicapped. As it is stated in the Journal of the American Speech and Hearing Association, "disorders differ as to their causes, basic symptoms, the conditions by which they are affected, and the indicated approaches to therapy. In working with the speech of the cerebral palsied, the speech correctionist must cooperate with medical specialists in orthopedics, pediatrics, and neurolgy, and with physiotherapists, occupational therapists, psychologists, teachers and, of course, the parents. In working with the speech of the hard of hearing another somewhat different pattern of cooperative relationships, including particularly the otologist or otolaryngologist, is to be observed. With cleft palate cases

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the oral surgeon, orthodontist, and prosthedontist are all closely concerned. At the same time, there are many cases of articulatory defect or of stuttering in which the speech correctionist may best take sole responsibility. Even in such cases, however, the speech correctionist must be prepared to recognize the need or lack of need, for referral to various specialists."

The Speech Center, which is affiliated with the Medical College of Virginia, is prepared to handle the following problems of children: functional articulatory, stuttering, voice, post-operative left palate, cerebral palsy speech, retarded speech development, hard of hearing speech, adult cases of stuttering, articulation, voice problems, aphasia, and laryngectomized speech.

There is a tendency among parents and doctors to adopt a wait and see attitude regarding speech problems. However, at an age of 4 to 6 years and with proper cooperation, many minor speech problems are more amenable to correction than when children have grown older. Also, often behavior problems are solved when a child no longer has an inferiority complex because of poor speech.

Speech defectives appear to be retarded scholastically and fail to take advantage of college opportunities out of proportion to intelligence. They may not, as children, achieve normal relationships with schoolmates or family. As adults, their earning power is cut, on the average 25% by a speech defect. Of course, in many instances, as with aphasia, the earning power is completely lost. As far as the personal adjustment which an individual has to make to life, a speech defect may rob one of poise—it is frustrating and demoralizing. Aggression, hostility, are to be found among children and adults frustrated in speech.

The aim of the Speech Center is to offer the best available speech diagnosis and therapy and to sponsor an interest in speech correction. With the monetary support of the Junior League of Richmond and other interested individuals, it is possible to charge nominal fees. Also applications for even lower fees or for free diagnosis and therapy are considered on the basis of need. At the discretion of the director, individual or group therapy is used.

Any questions regarding the work of the Center should be addressed to the Director, The Speech Center, 231 North 12th Street, Richmond, Virginia.

MRS. GEORGE FLOWERS, JR.

New Books.

The following are among recent additions at the Tompkins-McCaw Library of the Medical College of Virginia and are available to our readers under usual library rules:

Ackerman and Regato—Cancer, diagnosis, treatment and prognosis.
Banyai—Non tubercular diseases of the chest.
Boell—Dynamics of growth processes.
Bourne, ed.—International review of cytology.
Buetti-Baumi—Funktionelle rontgendiagnostik der halswiebelsaule.
Burch—Spatial vectorcardiography.
Cook—Progress in organic chemistry.
Garland—The physician and his practice.
Gordon ed.—Pigment cell growth.
Hawk—Practical physiological chemistry.
Holt—Pediatrics.
Johnson—The kinetic basic of molecular biology.
Josiah Macy—Liver injury.
Lillie—Histopathologic technic and practical histochemistry.
McAuley—The concept of schizophrenia.
Moloy—Clinical and roentgenologic evaluation of the pelvis in obstetrics.
Mursell—Using your mind effectively.
Nelson—Textbook of pediatrics.
Nuclear Science Series—Basic mechanisms in radiobiology, physical and chemical aspects.
Oppenheimer—Science and the common understanding.
Pulaski—Surgical infection: Prophylaxi, treatment and antibiotic therapy.
Sarton—Galen of Pergamon.
Schintz—Roentgen diagnostics.
Schoemackers—Atlas postmortaler angiogramme.
Schurr—Naturally yours.
Sebrell and Harris—The vitamins, chemistry, physiology, pathology.
Stevenson, ed.—Administrative medicine.
Sumpter and Miller—Heterocyclic compounds with indole and carbazole systems.
Symposium on problems of gerontology.
Vaughan—Primer of allergy.
Von Spehlmann—Sigmund Freud's neruologische schriften.
Welch—Principles and practice of antibiotic therapy.
Whaley—Principles of biology.
Year book of medicine.

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EDITORIAL

Carrington Williams
Our New President

WITH the present meeting of The Medical Society of Virginia in Washington, D. C., Carrington Williams becomes its 108th president. He was born in Richmond, Virginia, June 21, 1889, the oldest of six children of Walter Armistead Williams, a successful and respected business man, and Alice Marshall (Taylor) Williams, a woman of unusual ability as well as personal charm.

Carrington Williams attended McGuire's University School in Richmond, and in 1906 entered the University of Virginia where his friends remember him as an outstanding and popular student in both the academic and medical schools. He was deservedly the recipient of some of the highest honors the University had to offer. Here he joined Delta Psi fraternity and was later admitted to Phi Beta Kappa and Alpha Omega Alpha. He received his A.B. degree in 1910, and his M.D. degree in 1913.

CARRINGTON WILLIAMS, M.D.
President, The Medical Society of Virginia

After two years training at St. Luke's and St. Mary's hospitals in New York City, he returned to Richmond to enter an association with Dr. Stuart McGuire at St. Luke's Hospital and to begin what was to become an enviable surgical career.

It was at this time that he married the attractive and gifted Fannie Braxton Miller. Of their three sons, Dr. Carrington Williams, Jr., and Dr. Armistead Marshall Williams have followed their father in the pursuit of medicine. The third son, Lt. Mason

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Miller Williams, USAAF, lost his life over Munich. Germany, on a bombing mission in 1944.

The First World War was an interruption which took Dr. Williams to training camps and ultimately to the European Theatre as a member of the surgical division of Base Hospital, 45 AEF, located at Toul, France, under the command of Colonel Stuart McGuire. Mustered out of service in 1919 with the rank of Captain M.C., U.S.A., he naturally realigned himself with his former chief in the organization and operation of the then nascent McGuire Clinic. Except for two brief intervals when he practiced independently he continued this connection until 1944 when he joined the surgical staff of Stuart Circle Hospital.

Carrington Williams has always taken a lively interest in the teaching of medicine, and his talents as surgeon and teacher have been generally recognized and rewarded. Beginning as an instructor in anatomy in the Medical School at Charlottesville, with change of residence he accepted teaching positions in the Medical College of Virginia in Richmond, and passing through the various grades of the surgical department was in 1939 appointed professor of Clinical Surgery, a position he still holds. His sympathetic and helpful concern for the younger men who have come under his influence has followed the best tradition of the medical profession.

His concentration of interest has been upon the diseases of the thyroid gland and the gastro-intestinal tract, and in these areas of surgery his skill and success has been recognized and in these fields also he has contributed ably to current medical literature.

Perhaps his professional attainments are best reflected in the various medical and surgical societies in which he holds membership. He has been president of the Richmond Academy of Medicine and of the Southern Society of Clinical Surgeons, and several times has represented Virginia in the House of Delegates of the American Medical Association. He has been a vice-president of The Medical Society of Virginia, and is a member of the Southern Surgical Association as well as of the American Surgical Association.

His career has been marked also by alignments and activities that indicate a deep social consciousness, a warm heart and an unselfish devotion to the service of others. These facets of his character have been conspicuous in such things as his chairmanship of the Richmond Branch of the American Red Cross during World War II, his active participation in many phases of the Community Chest program, and his enthusiastic support of Richmond's new War Memorial community hospital. He is one of those rare individuals who has endeared himself to a host of friends and patients by his cordial manners, his ability to inspire confidence, and by his obvious mastery of the skills of his profession.

Carrington Williams brings to his new office familiarity with the affairs and problems of The Medical Society of Virginia, a wide and friendly acquaintance with its membership, a high dedication to the economic, ethical, scientific aspirations of medcine, a tolerant, just and kindly spirit, a record of, and a capacity for work, and a professional reputation that will adorn the office. He is the kind of man The Medical Society of Virginia delights to honor.

W.B.B.

SOCIETY PROCEEDINGS

The Southwestern Virginia Medical Society

Met in Roanoke on September 16th with the president, Dr. R. C. Potter, presiding.

A Conference on Therapeutics was given with Dr. H. B. Mulholland, University of Virginia, serving as Moderator. The following subjects were discussed: Treatment of the Anemias of Childhood by Dr. Sarah R. Chitwood, Pulaski; Cortisone, ACTH and Related Drugs by Dr. Stuart Catron, Abingdon; Steroids and Hormones by Dr. Robert B. Jones, Jr., Roanoke; Use of the Antibiotics by Dr. M. E. McMillan, Marion; Treatment of Diabetes by Dr. Charles A. Hefner, Roanoke; and Speculations on the Common Cold by Dr. Richard O. Smith, Pulaski.

Following a social hour, Dr. Geoffrey T. Mann, Chief Medical Examiner of the State of Virginia, Richmond, spoke on Unusual Aspects of Medico-Legal Practice.

The following officers were installed: President, Dr. C. C. Hatfield, Saltville; vice-president, Dr. James L. Chitwood, Pulaski; and secretary-treasurer, Dr. Reverdy Jones, Roanoke.

The Williamsburg-James City County Medical Society

Met on September 8th at the home of Dr. Herman Bailey, Yorktown, for cocktails and dinner. Drs. Bailey, John W. Martin, and J. R. Turnage were hosts for the meeting.

Dr. Walter B. Martin, President of the American Medical Association, was guest speaker.

Buchanan-Dickenson Medical Society.

Dr. Lewis Aaron, Grundy, has been elected president of this Society, succeeding Dr. W. A. Cover who has moved to Tazewell. Dr. J. S. Richardson, Grundy, is secretary-treasurer.

Fourth District Medical Society.

This Society met at South Hill on September 14th under the presidency of Dr. A. Tyree Finch, Farmville. The following program was presented: Sciatica—Etiology and Treatment by Drs. William M. Deyerle and Virgil R. May, Richmond; Comments on the History of Psychiatry by Dr. Walter J. Brennan, Petersburg; and Remarks on the Use of Digitalis by Dr. N. F. Wyatt, Petersburg.

Lynchburg Academy of Medicine.

The regular monthly meeting of the Academy was held at the Lynchburg General Hospital on September 13th. Dr. Elam C. Toone, Jr., of the Medical College of Virginia, Richmond, spoke on "Use of Cortisone in Treatment of Rheumatoid Arthritis".

The Medical Association of the Valley of Virginia,

At its meeting in Staunton on September 23rd, elected Dr. H. G. Hudnall, Covington, as president.

Virginia Peninsula Academy of Medicine.

The first fall meeting of the Academy was held on September 15th with the social hour and dinner at the James River Country Club. At the business session which followed, Dr. Guy Odom, Professor of Neurosurgery, Duke University School of Medicine, spoke on "Acute Subarachnoid Hemorrhage".

Dr. O. W. Ward, Sr., Phoebus, is president of the Academy and Dr. W. T. Watkins, Jr., Newport News, secretary-treasurer.

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NEWS

Calendar of Coming Events

EVENING MEDICAL LECTURES—University of Virginia, School of Anatomy, Charlottesville, November 8. Dr. Lawrence E. Young, Rochester, N. Y., "Some Newer Concepts of Hemolytic Disorders"

SOUTHERN MEDICAL ASSOCIATION—St. Louis, Missouri, November 8-11

AMERICAN COLLEGE OF SURGEONS—Clinical Congress—Atlantic City, N. J., November 15-19

EVENING MEDICAL LECTURES—University of Virginia, Charlottesville, November 22. Dr. Lewis Thomas, New York City, "The Pathogenesis of the Generalized Vascular Lesions Caused by Endotoxins"

EVENING MEDICAL LECTURES—University of Virginia, Charlottesville, November 29. Dr. Frank L. Engel, "The Endocrine Control of Metabolism"

AMERICAN MEDICAL ASSOCIATION—Clinical Meeting—Miami, Florida, November 29-December 2

EVENING MEDICAL LECTURES—University of Virginia, Charlottesville. December 6. Dr. William G. Hardy, Johns Hopkins Hospital, "Hearing and Language Disorders in Young Children"

SECOND ANNUAL CONFERENCE ON THERAPY—University of Virginia Medical School, December 10, 9:00 A.M.-5:00 P.M.

EVENING MEDICAL LECTURES—University of Virginia, Charlottesville, December 13. Dr. Joseph E. Smadel, Walter Reed Army Medical Center, "Current Problems in Virology"

TRI-STATE MEDICAL ASSOCIATION—Hotel Chamberlin, Old Point, Va., February 21-22

A.M.A. Clinical Session.

The Eighth Annual Clinical Session of the American Medical Association will be held in Miami, Florida, November 29th to December 2nd.

The clinical sessions will be held in Dinner Key Auditorium where physicians will find ample accommodations. There is a large parking area, bus and taxi service from hotels, and an excellent restaurant as well as a snack bar. A physician may well plan to spend his entire day at the Auditorium. The lecture program includes subjects in the fields of medicine, surgery, pediatrics, neuropsychiatry, obstetrics and gynecology. Outstanding authorities from all over the country will be on the program.

The scientific exhibit will include 80 exhibits. Motion pictures will be shown continuously on subjects which will interest the physician in general practice. Color television will again be shown with programs originating from the Jackson Memorial Hospital.

Technical exhibits will also be housed in the Auditorium and over 130 firms will be represented.

The primelinary program of the Miami meeting is carried in the October 30th issue of the Journal of the American Medical Association.

Doctors Invited to Jamaica.

Members attending the AMA Interim meeting in Miami are invited to a post-convention meeting of the British Medical Association, Jamaica Branch, at Kingston, capital city of the island, on Saturday, December 4, at 10:00 A.M.

The invitation comes direct from the president and officers of the Jamaica Association, which was founded in 1877.

Jamaica is reached from Miami by airliner in a pleasant 2½ hour trip over the Gulf Stream, across Cuba and a corner of the Caribbean Sea. Following the close of the AMA meeting on Thursday, December 2, doctors and their wives could fly to Jamaica on Friday, attend the British Medical meeting Saturday forenoon, December 4, then enjoy the attrac-

tions of the popular tourist island as long as desired, returning to Miami by several daily air schedules in about three hours.

Further details will be available at Information Desks at the Miami meeting, from American Express Company and local travel agents, or from the Miami office of the Jamaica Tourist Board, 1631 duPont Building.

Dr. Harvey B. Haag,

Richmond, was guest speaker at the One Hundred Fourth Annual Session of The Medical Society of the State of Pennsylvania, October 19-22. He spoke on Pharmacology of Tobacco.

News from the University of Virginia.

Dr. William Henry Muller, Jr., one of the leading cardiac surgeons in this country, has been appointed professor of surgery and chairman of the Department of Surgery of the School of Medicine. He comes to Virginia from the University of California Medical Center at Los Angeles, where he has been associate professor of surgery and has had charge of the Division of General Surgery for the past year and a half.

Dr. Thomas H. Hunter, Dean of the School of Medicine, has been appointed special consultant to the Public Health Service as a member of the Pharmacology and Experimental Therapeutics Study Section of the National Institutes of Health. This appointment is for three years beginning January 1955.

Four members of the medical school faculty appeared on the program of the American Roentgen Ray Society at its annual meeting in Washington, September 22-23. Dr. Vincent W. Archer spoke on "Protection of Personnel During Radiological Examinations," and Drs. George Cooper, Edward P. Cawley, and Catherine Russell conducted a refresher course on "The Systemic Mycoses".

Bluefield Sanitarium Clinic.

Dedication ceremonies upon the opening of the Bluefield Sanitarium Clinic, 525 Bland Street, Bluefield, W. Va., will be held on November 10th. Dedication ceremonies and a tour of the newly completed clinic will take place the afternoon of the 10th and clinical exhibits will be displayed by the staffs of the Bluefield Sanitarium, Stevens Clinic and Clinch Valley Clinic.

These are as follows: Neuro-Surgical Problems by Dr. E. L. Gage; Diabetes by Dr. K. E. Weier; Fungus Diseases of the Lung by Drs. V. L. Kelly and H. F. Warden; Myeloid Metaplasia by Dr. H. F. Warden; Foreign Bodies of the Esophagus and Lung by Dr. A. J. Payne; Detachment of the Retina by Drs. F. D. White and C. F. Johnston; Chest X-Rays in Silicosis by Dr. S. G. Davidson; Cytomegaliac Inclusion Disease by Drs. A. J. Villani and M. W. Sinclair; Fungi in General Practice by Dr. R. C. Neale; Tumors of the Colon by Drs. W. H. St. Clair and Hampton St. Clair; Intussusception by Dr. R. S. Gatherum, Jr.; Macrocytic Anemia of Pregnancy by Dr. W. R. Wellborn, Jr.; Tumors of the Kidney by Drs. E. W. Kirby, Jr., and T. B. Baer; and Plastic Surgery of Extremities by Dr. R. R. Raub.

Following a banquet at the Bluefield Country Club, Dr. Rollin A. Daniel, Jr., Associate Professor of Surgery, Vanderbilt University Medical School, will speak on Some Aspects of Heart Surgery. Dr. Walter B. Martin, President of the American Medical Association will address the attending physicians on The Doctor, The Hospital and The Public.

Dr. David N. Garner,

Roanoke, has been appointed as chairman for the Roanoke Valley Heart Association for the 1955 fund campaign.

The Stage Is Set.

The year 1954 marks the fiftieth anniversary of the National Tuberculosis Association, the anniversary of the nationwide fight against tuberculosis in the United States. The campaign against tuberculosis as conceived by the founders of the National Tuberculosis Association is nationwide in scope but the basic unit is the local, self-governing tuberculosis association. The local associations work together in democratically constructed state associations. The National Association serves the state and local associations, coordinates their efforts, and carries on those responsibilities which can be handled by a national body.

. . . We need to improve further our overall program of tuberculosis control in which official and voluntary agencies join in a concentrated, cooperative effort. Such a program includes:

Greater efforts to find all cases of tuberculosis.

Greater efforts to make the best techniques of modern TB treatment readily available to all patients.

Greater efforts to build up resistance of people to tuberculosis infection.

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This then, is the program for tuberculosis control in this country.

It is difficult—it is ambitious. It is necessary. . . . The stage is set for total victory. There must be no faltering at this critical point

BUY AND USE CHRISTMAS SEALS.

Hurricane "Carol" and Drs. Jennings.

Drs. Thomas and Eileen Jennings, Bedford, were on vacation at their summer home in W. Barrington, R. I., when Hurricane "Carol" struck that area. They have returned to their home minus their car. The two doctors helped in the evacuation of residents and Dr. Tom Jennings was sent on an emergency call to a woman who had a heart attack. In the short time that he was in the house, his car was submerged up to the roof and salt water ruined it irreparably. They escaped personal injury and only the basement of their home was flooded.

Parke, Davis to Replace Medicines.

Parke, Davis & Company will replace without charge all Parke-Davis products damaged or destroyed by the recent hurricane and flood tide in retail and wholesale drug firms throughout New England. Scores of drug stores in the storm area were damaged and representatives of this Company will aid the druggists in taking inventory of their stocks.

Dr. C. S. Lentz,

Recently of Arlington, is now located at 258 Capital Ave., N. E., Battle Creek, Michigan. He is Hospital Consultant, Health Office, of the Federal Civil Defense Administration which has moved its offices to Battle Creek.

Dr. Samuel A. Kirkpatrick

Has completed a residency in obstetrics and gynecology and has opened his office in the Professional Bldg., Portsmouth.

Representative for J. B. Roerig Company.

Mr. Hugh Paylor has recently been appointed medical service representative for the J. B. Roerig Company in Richmond.

Dr. Joseph E. Barrett,

Richmond, was elected president of the Southern Psychiatric Association at its recent meeting in Louisville, Ky.

The Seaboard Medical Association

Will meet in Wilson, N. C., November 14-16, under the presidency of Dr. Edwin A. Rasberry, Jr.

On the opening day there will be an open house and buffet from 12:30 to 3:30 P.M., at the Wilson Country Club and that night there will be an informal reception and the President's Dinner for Guests.

On Monday, the following scientific program will be presented: Simplified Classification of Functional Diseases for Treatment Purposes by Dr. J. T. Ransone, Newport News; Surgical Treatment of Common Vascular Disorders by Dr. Ralph Deterling, New York; Heart Disease in Pregnancy by Dr. James Woods, Chapel Hill, N. C.; The Treatment of Angina Pectoris by Dr. Edward Orgain, Durham, N. C.; The Management of Chronic Glomerulo Nephritis by Dr. Guy W. Daugherty, Rochester, Minn.; Medical Care of Acute Poliomyelitis by Dr. R. Cannon Eley, Boston, Mass.; a panel on Management of Hypertension; The Diagnosis of Brain Tumors in Children by Dr. James L. Thomson, Norfolk; Diaphragmatic Hernia with Particular Reference to the Problems of the Hiatus Hernia by Dr. Vince Moseley, Charleston, S. C.; The Surgical Management of Gallbladder Disease by Dr. Lloyd Stevens, Philadelphia; The Concept of the Psychosomatic Process by Dr. George Ham, Chapel Hill, N. C.; Analysis of the Results of Conservative Therapy in Peptic Ulcer Patients by Dr. Grier Miller, Philadelphia; The Cause and Drug Therapy of Parkinson's Disease by Dr. Thomas Fleming, Nutley, N. J.; and a panel on The Management of Peptic Ulcer.

The program for Tuesday morning will be: Extradural Hematoma of the Posterior Fossa by Dr. Armando R. Coppola, Newport News; Experiences with Femoral Head Replacement by Metal Prosthesis by Dr. George Hollins, Jr., Norfolk; The Medical Management of Hyperthyroidism by Dr. Ernest Yount, Winston-Salem, N. C.; Modern Day Treatment of Malaria by Dr. Ralph Jones, Philadelphia; Recent Developments in the Treatment of Severe Liver Disease by Dr. John Sessions, Chapel Hill, N. C.; and a panel on Recent Advances in Antibiotic and Chemotherapy.

Dr. James M. Habel, Jr., Suffolk, is secretary-treasurer of this Association.

The American Board of Physician Medicine and Rehabilitation

Will hold its next examinations in Philadelphia,

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June 5-6, 1955. The final date for filing application is March 1st. Applications for eligibility to the examinations should be mailed to the secretary, Dr. Earl C. Elkins, 30 N. Michigan Ave., Chicago 2, Ill.

For Sale.

My home with attached office on Queen's Creek in Mathews County. Nine rooms with three baths. Boat dock and double garage. Office suitable for guest wing. Desirable location for dentist. Reasonably priced. Can be financed. Dr. H. L. Shinn, Hallieford, Virginia. Phone—Matthew 5-3441. (*Adv.*)

For Rent.

Excellent opportunity for physician just outside Washington in expanding community of Alexandria. Complete 5-room house available for use as office in area needing services of a physician. Owners willing to assist doctor in getting started. Telephone Mr. Charles Gerstein, Temple 6-9378, Washington, D. C., for appointment. (*Adv.*)

Desires Location.

General physican, qualified in surgery, age 31, to be released from Army, February 1955. Desires to associate with another physician or small group in Virginia town of 5,000-20,000. For details write Box 200, Virginia Medical Monthly, Box 5085, Richmond 20, Va. (*Adv.*)

For Sale.

Complete office equipment, including fluoroscope, two sterilizers, metabolism machine, etc., in excellent condition. Owned by general practitioner, recently deceased. Contact Mrs. J. Edward Amiss, Altavista, Va. (*Adv.*)

OBITUARIES

Dr. George Woodford Brown,

Former Superintendent of Eastern State Hospital, died at his home in Williamsburg on October 8th, having been in ill health for some time. He was eighty-five years of age and graduated from the College of Physicians and Surgeons, Baltimore, in 1893. In 1911 Dr. Brown was appointed superintendent of Eastern State Hospital and held that post for thirty-two years. During that time, five fireproof buildings were built at the hospital in Williamsburg and eight at the new Dunbar site. Dr. Brown had been active in community affairs and was a member of the American Psychiatric Association. Since 1918 he had been a member of the Governor's advisory board for mental hygiene. He was a Life Member of The Medical Society of Virginia, having joined in 1894. Two daughters survive him.

Dr. Edward Arthur Delarue,

Well known Richmond physician, died September 19th of coronary thrombosis. He was forty-seven years of age and received his medical degree from the University of Virginia in 1937. Dr. Delarue was a member of the faculty of the Medical College of Virginia and taught in the cardiology clinic at the College and also at McGuire Hospital. During World War II, he was an original member of the Forty-fifth General Hospital, serving with the rank of Captain. Dr. Delarue had been a member of The Medical Society of Virginia for seventeen years. His parents and a sister survive him.

Dr. Albert T. Young,

Alexandria, died August 21st after a long illness. He was seventy years of age and a graduate of the Maryland Medical College in 1905. Dr. Young had been a member of The Medical Society of Virginia since 1918. His wife survives him.

Dr. Eugene William Senter,

Prominent physician of Salem, died September 20th after a brief illness. He was forty-eight years of age and a graduate of the Medical College of Virginia in 1932. Dr. Senter served as the first full-time city physician of Roanoke before starting practice in Salem in 1937. He was a member of The Medical Society of Virginia. His wife and two children survive him.

Dr. George Hunter Long,

Luray, died October 3rd. He was sixty-seven years of age and a graduate of the Medical College of Virginia in 1910. Dr. Long had been a member of The Medical Society of Virginia for several years.

Dr. Hansbrough.

On July 5, 1954, this society and community sustained an irreparable loss by the untimely death of

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Dr. Lyle Jamesson Hansbrough, while at the height of his medical career.

Dr. Hansbrough was a native of Warren County, having been born in Front Royal, May 14, 1911. He was the third generation of his family to serve this community as an out-standing physician. He graduated from R.M.A. and V.M.I. and received his medical degree from the University of Virginia in 1936. He also served his internship and surgical residency there. He was resident surgeon at The Good Samaritan Hospital in Cincinnati, Ohio, and was a member of American College of Surgeons.

In 1943, he started in the practice of surgery in Front Royal. His out-standing skill as a surgeon and diagnostician was immediately recognized. He never spared himself in his devotion to his profession and held himself, as well as those with whom he worked to the highest standards of the professor. He placed the practice of medicine in this community on a higher level than had ever before been possible. The small local hospital was soon out-grown. It was he who took the necessary initiative to start the plans for the new Warren Memorial Hospital.

With him the patient was placed first. Dr. Hansbrough was always approachable, understanding and inspired the confidence and the devotion of his patients and those who worked with him. He had an amazing feeling for true values. His knowledge and skill in surgery were so comprehensive, that his local colleagues found assistance in every type of situation and emergency, even outside the field of his specialty.

The doctors and people of this community have had a great blessing in his eleven short years of work here. His memory will always be cherished.

We would express our deepest sympathy to his wife, five sons, and mother in their great loss.

NORTHERN VIRGINIA MEDICAL SOCIETY

Resolution on Dr. Hubbard.

On June 29, 1954, Dr. James Fillmore Hubbard of Waynesboro, crossed the river to meet his master.

He was 78 years od having been born in York County on December 5, 1875. He was educated by private tutors until he entered the University College of Medicine at Richmond from which he graduated in 1908. He subsequently established himself at Schuyler where he practiced until he entered the Army during World War I. After his discharge from the Army, he located at Avon in Nelson County. In 1921 he moved to Waynesboro and was in active practice up until a few days before his death.

His first thought was for his patients. He was never the first to lay the old aside or the last to adopt the new. He was held in high esteem by his fellow practitioners and his consultants. When others were anxious to limit night office hours, he insisted upon keeping them because he felt that it was necessary in order to adequately and properly serve his patients.

He will long be remembered by all who knew him, and especially those he attended, as a loving, sympathetic, kindly individual who exemplified in every respect the complete physician. In spite of many episodes of illness in recent years, he refused to retire and continued to serve his fellow man.

He was preced in death by his wife, Edmonia Douglas, and is survived by a son, Fillmore, and one daughter, Mrs. Douglas Norris.

BE IT RESOLVED that the above resolutions be spread upon the minutes of the Waynesboro Community Hospital and the minutes of the Augusta County Medical Society and that copies be sent to members of the family and the Virginia Medical Monthly.

C. L. SAVAGE, M.D.

Resolution on Dr. Morton.

Dr. Heber J. Morton of Stuarts Draft passed on to his reward on Tuesday, August 10, 1954. This genial physician will long be remembered by his friends and associates.

He was a past president of the Augusta County Medical Society. He was always interested in the welfare of his patients and his profession. No greater tribute can be paid than the editorial which appeared in the Waynesboro *News Virginian* on Wednesday, August 11, 1954:

"It is with considerable sorrow that we record the passing of Dr. Heber J. Morton, practicing physician in Augusta County for 22 years, several in Waynesboro and the remainder in Stuarts Draft. 'Doc', as most of us realize, suffered serious illness for many years. He fought the advances of the disease courageously and endured its mental torture and physical pain with inspiring patience and nobility.

"He devoted his life, *not* to self-sympathy, but to unselfish attention to the ills and ailments of others. He was a true exponent of the philosophy of Hippocrates who held that service to mankind was the highest dedication of a physician. Dr. Morton always responded, night or day, to an appeal to alleviate suffering.

"'Doc' was a sympathetic, friendly, genial soul. His many friends are bowed deep in grief at his death. But no individual dies whose memory lives. Certainly the memory of this rugged, doughty, kindly individual will not be obliterated and, just as certainly, his interest in and service to others remains his dominant passion, as he steps over the threshold of eternity."

He is survived by his widow and two sisters.

BE IT RESOLVED that these resolutions be spread upon the minutes of the Staff of the Waynesboro Community Hospital and in the minutes of the Augusta Medical Society and that copies be sent to his family and the Virginia Medical Monthly.

C. L. SAVAGE, M.D.